

FIG. 1

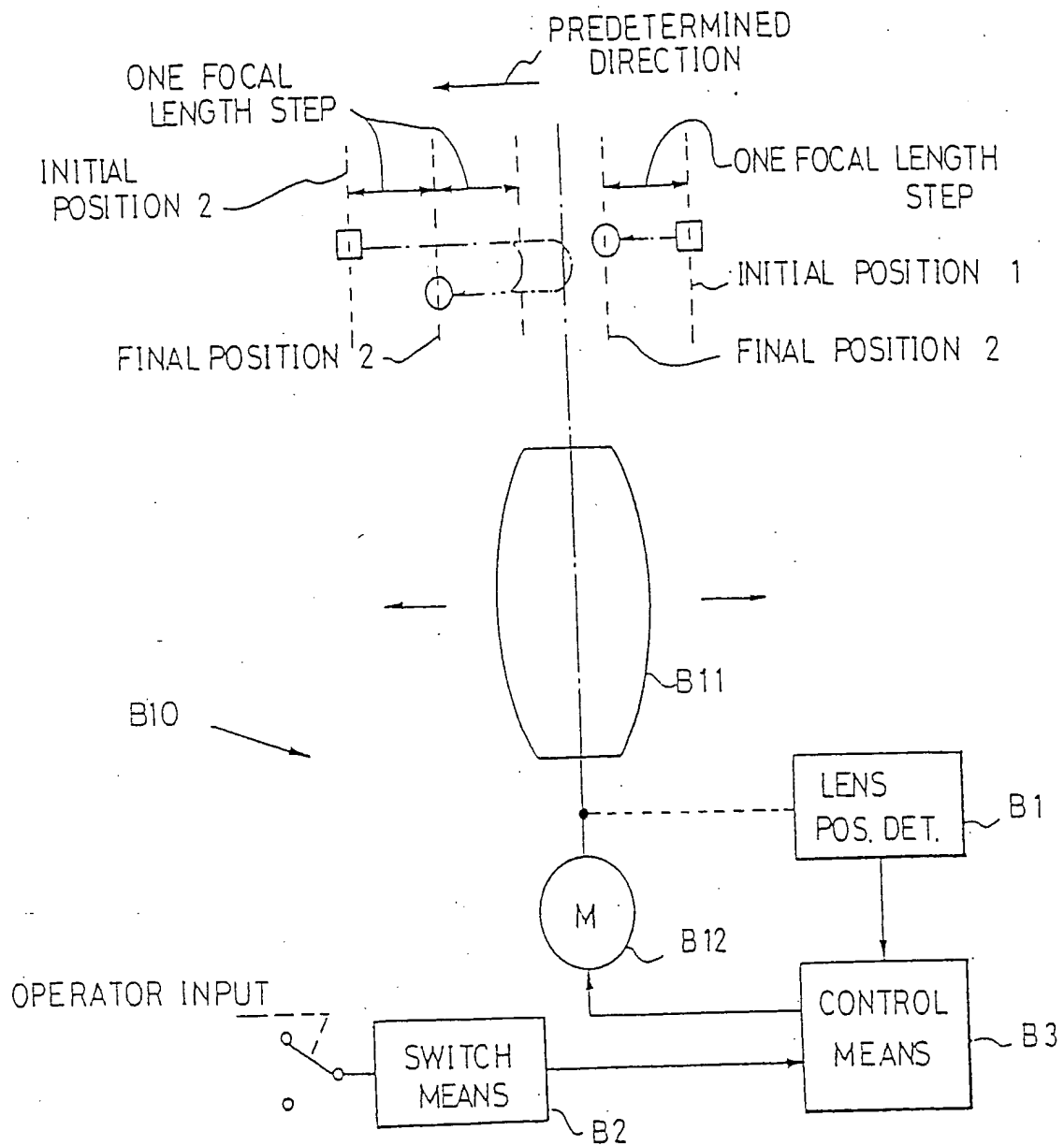


FIG. 2

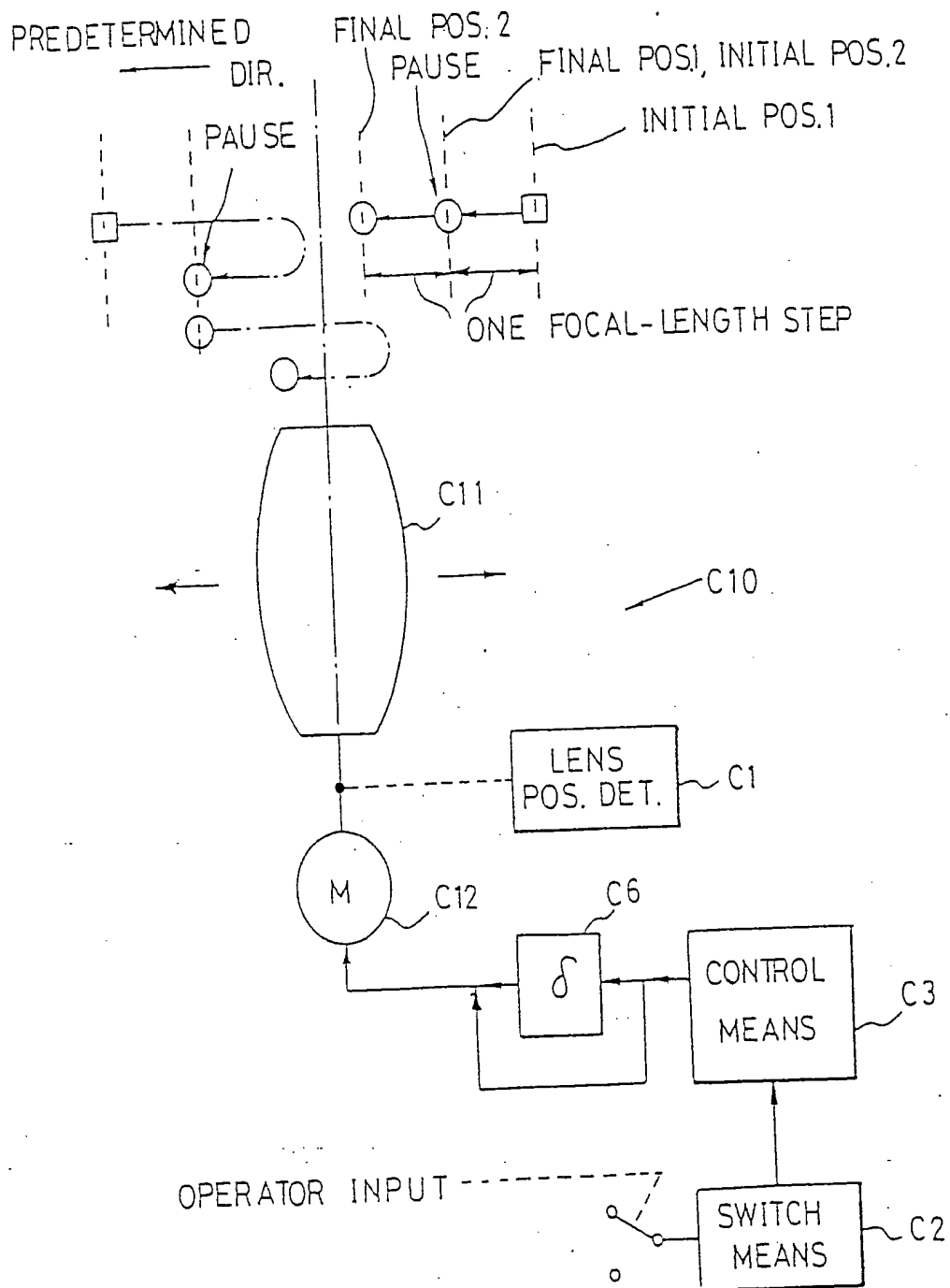


FIG. 3

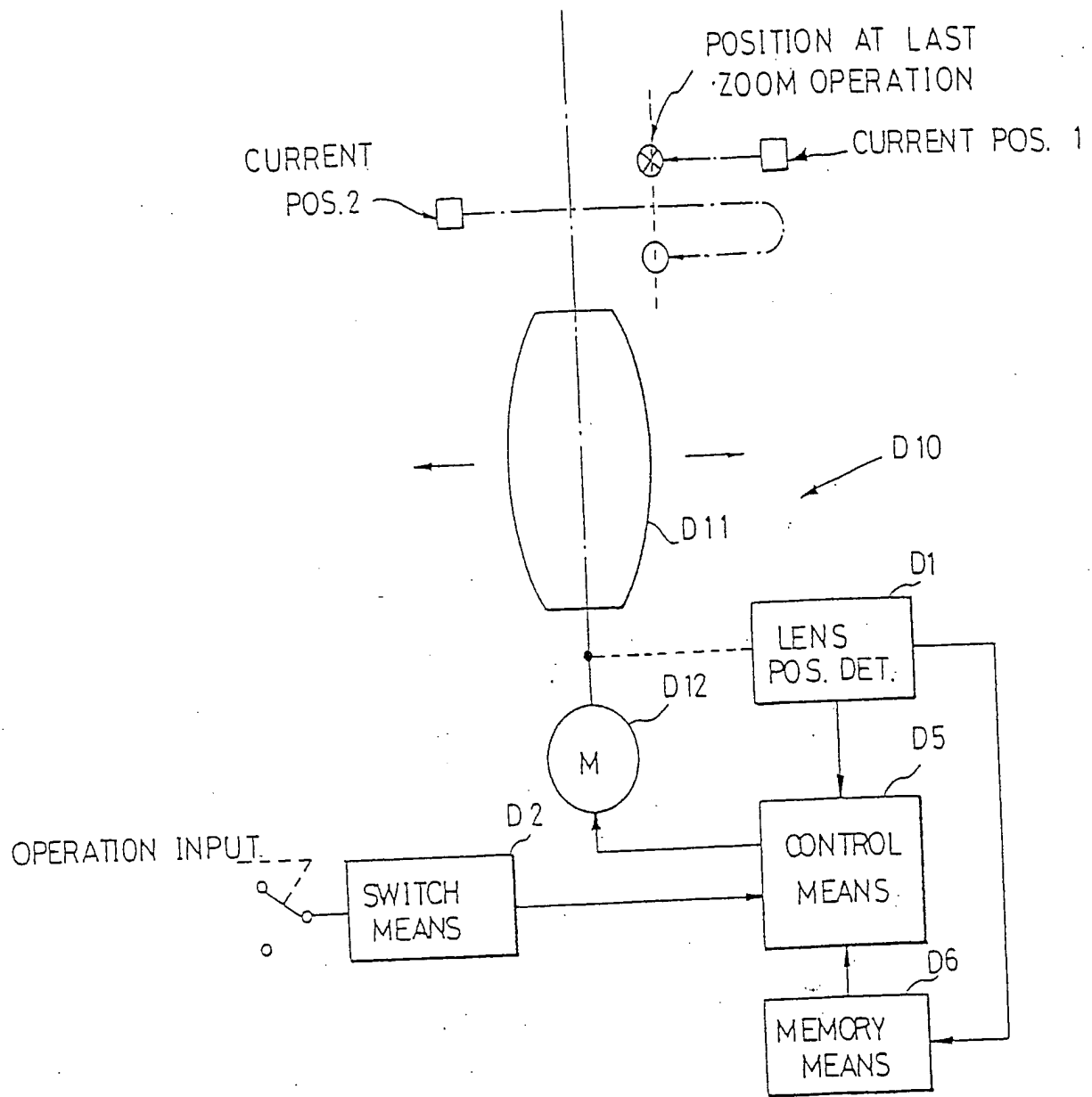


FIG. 4

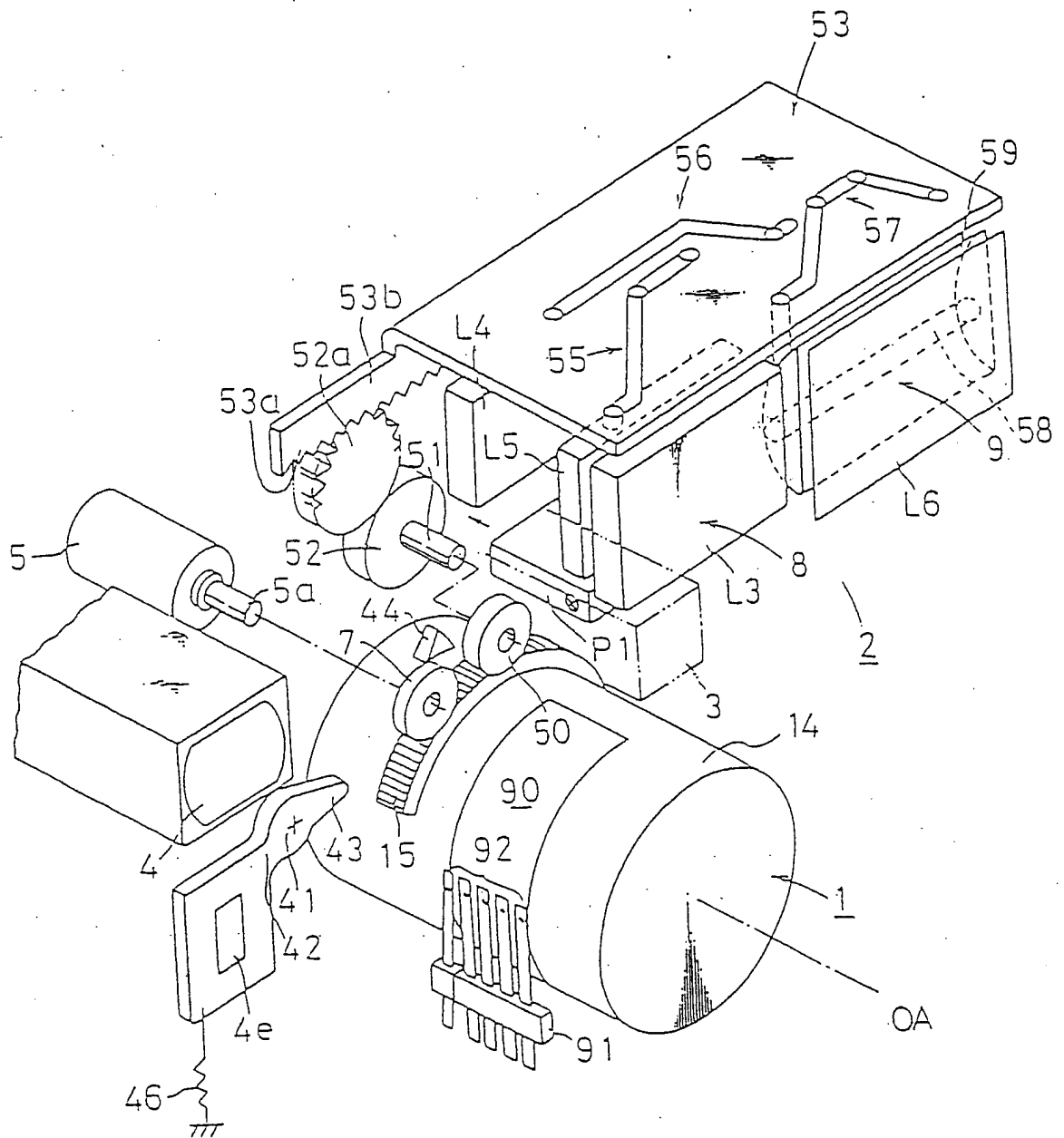
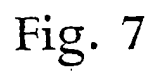
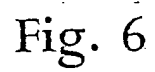


FIG. 5



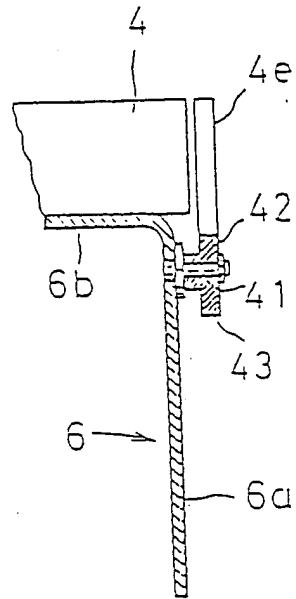


FIG. 8

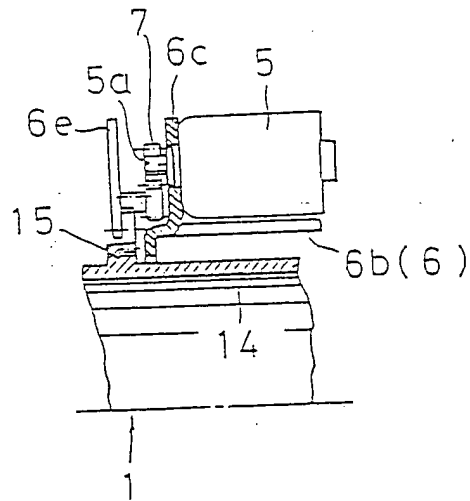


FIG. 9

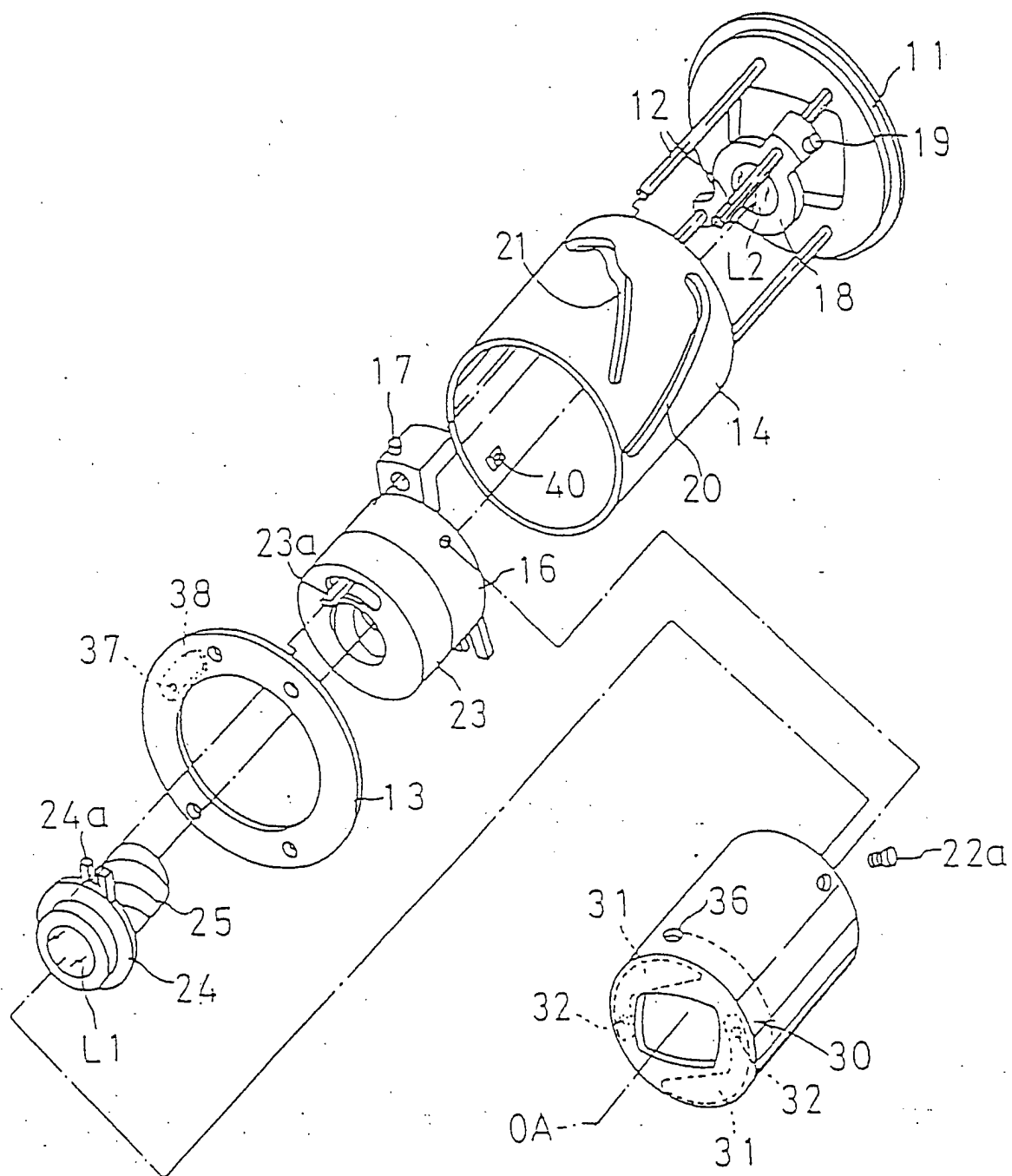


FIG. 12

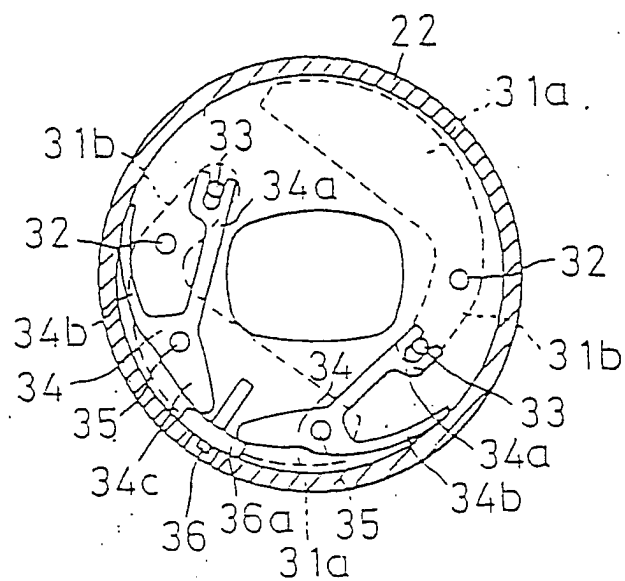


FIG.13

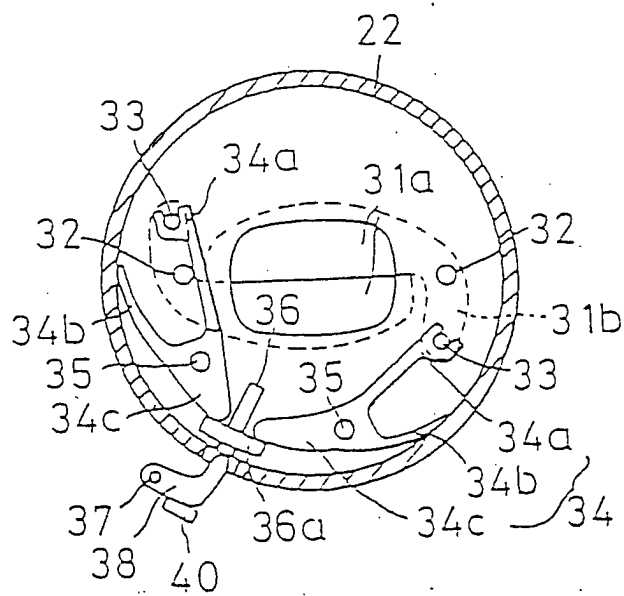


FIG.14

FIG. 16

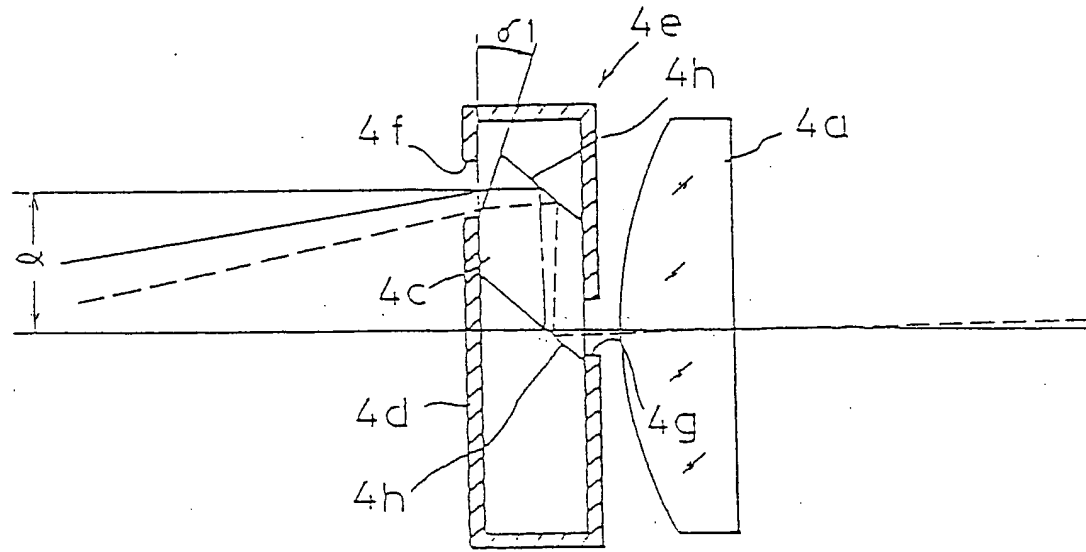


FIG.17

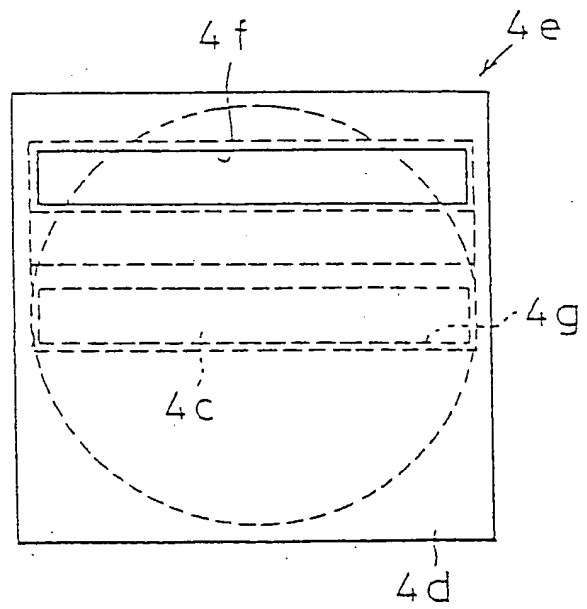


FIG.18

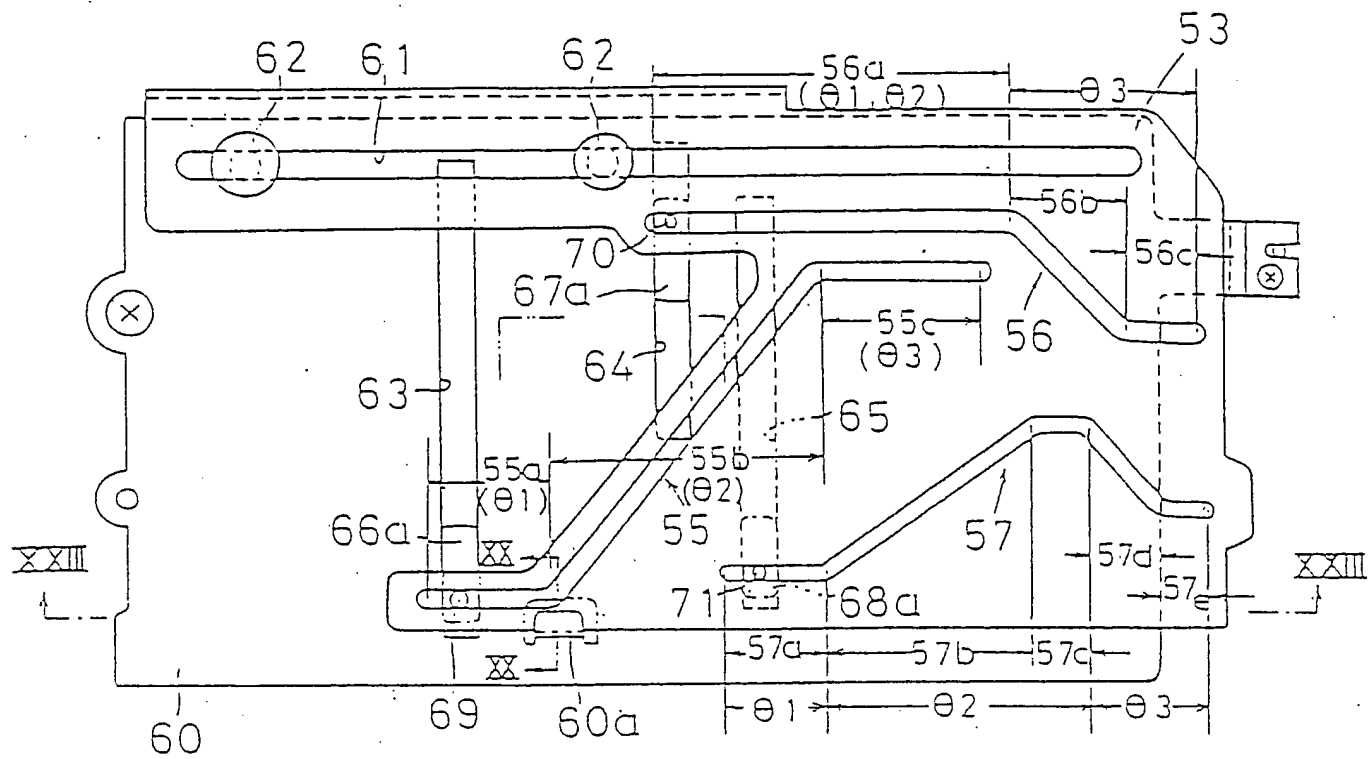


FIG. 19

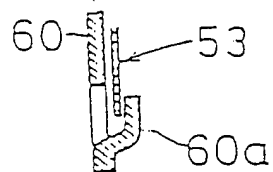


FIG. 20

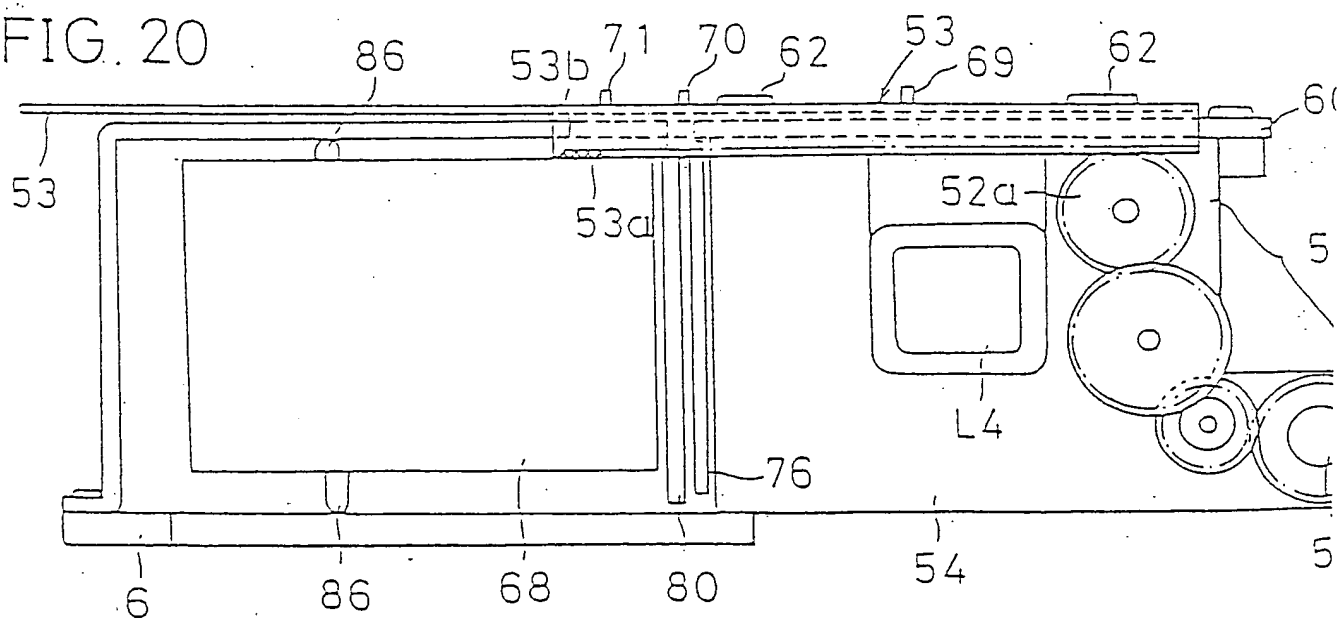


FIG. 21

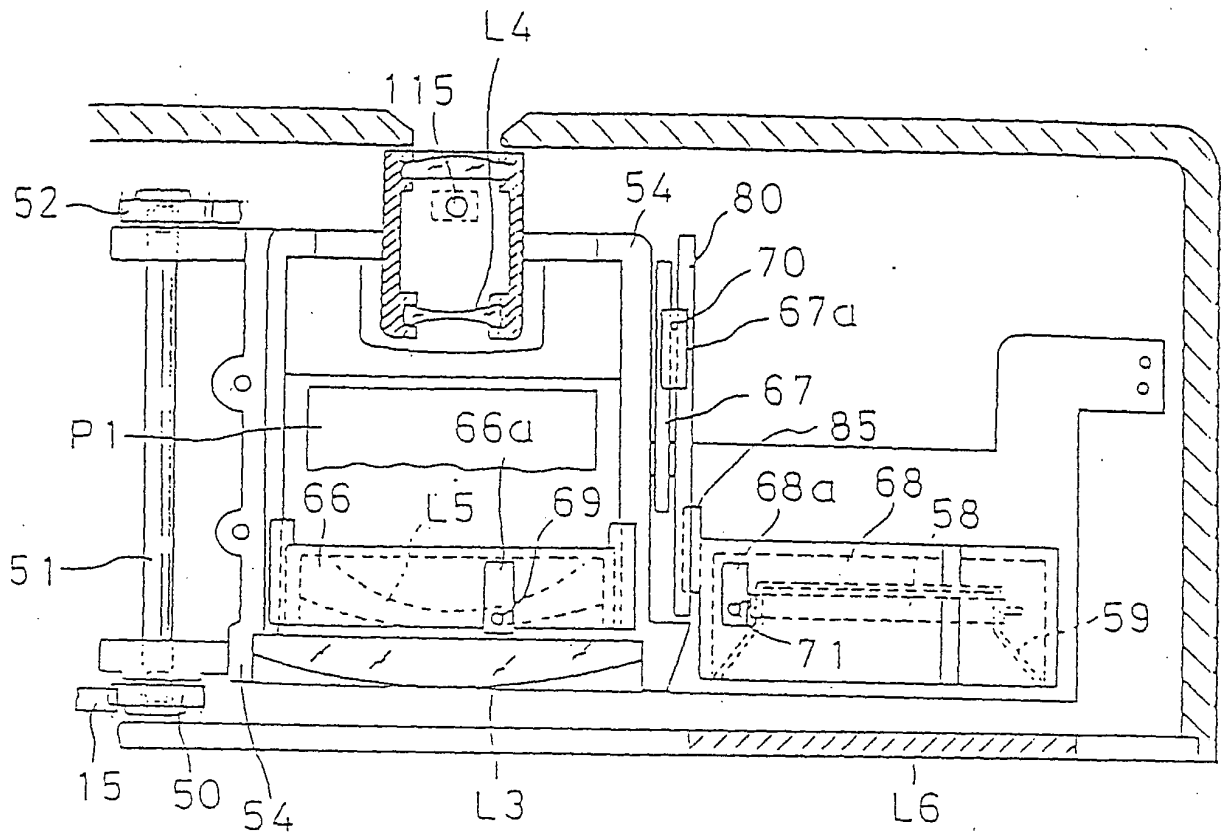


FIG. 22

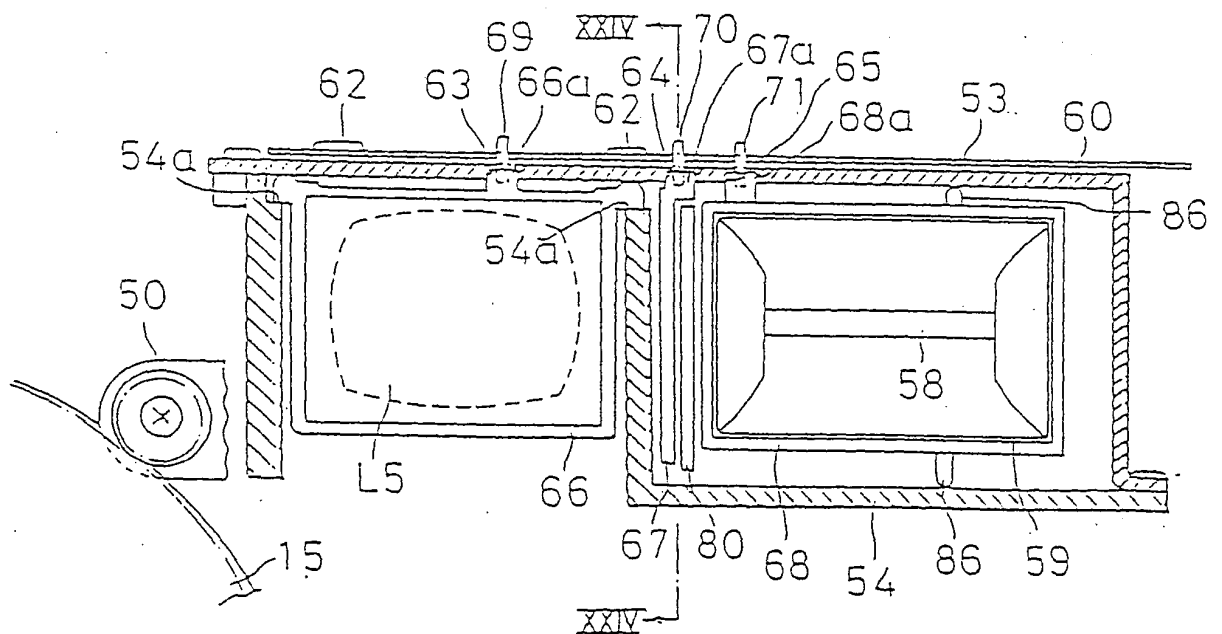


FIG. 23

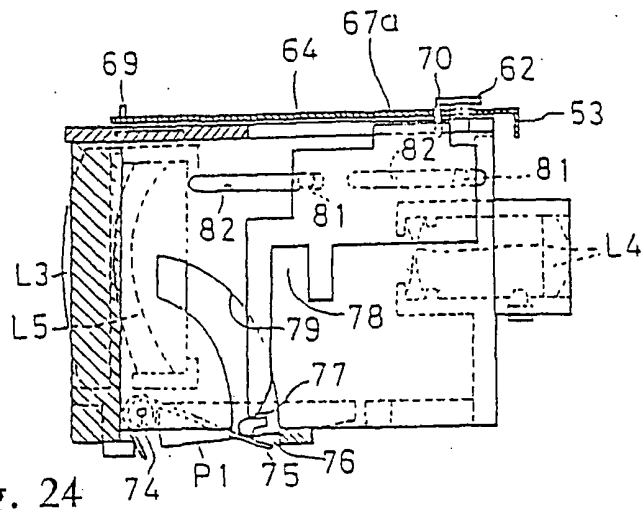


Fig. 24

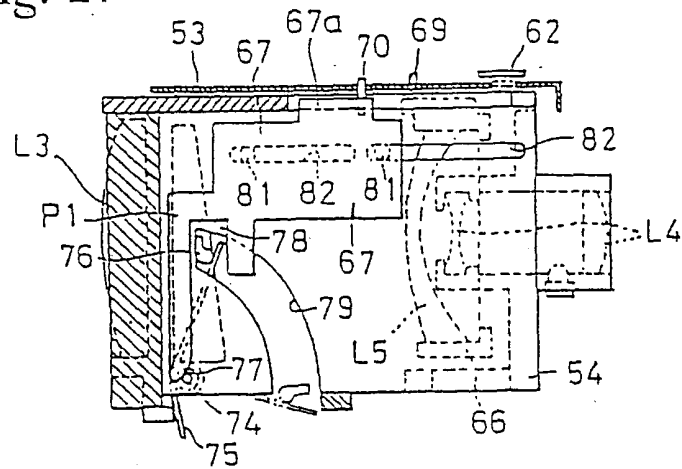


Fig. 25

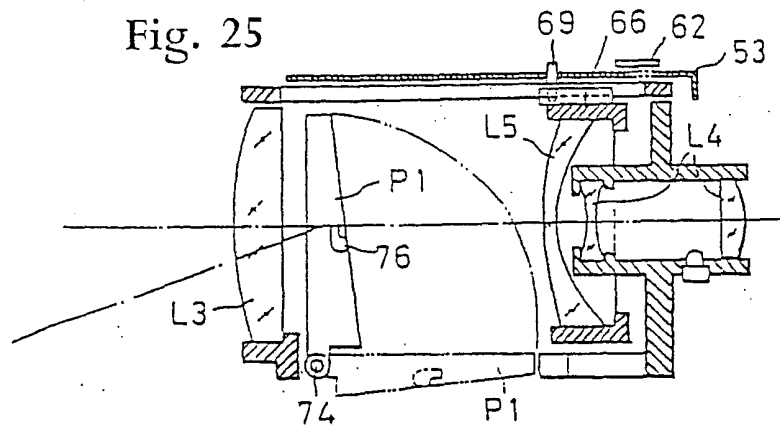


Fig. 26

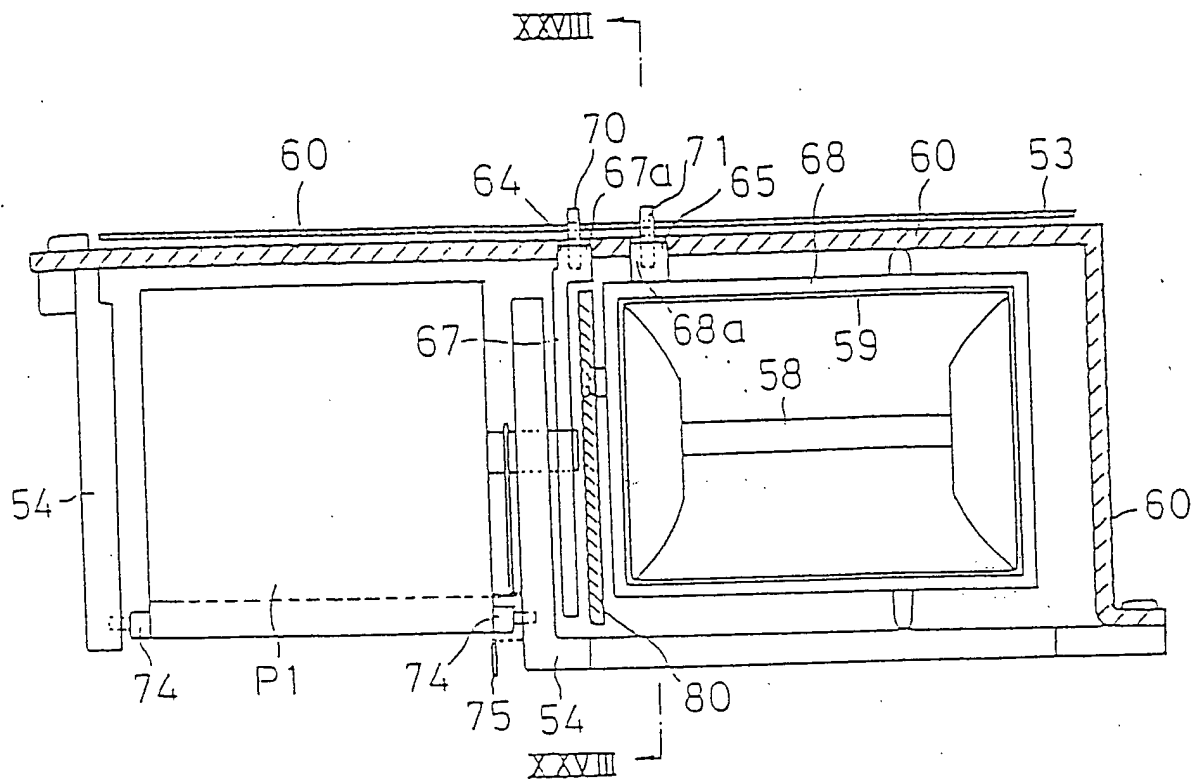


FIG. 27

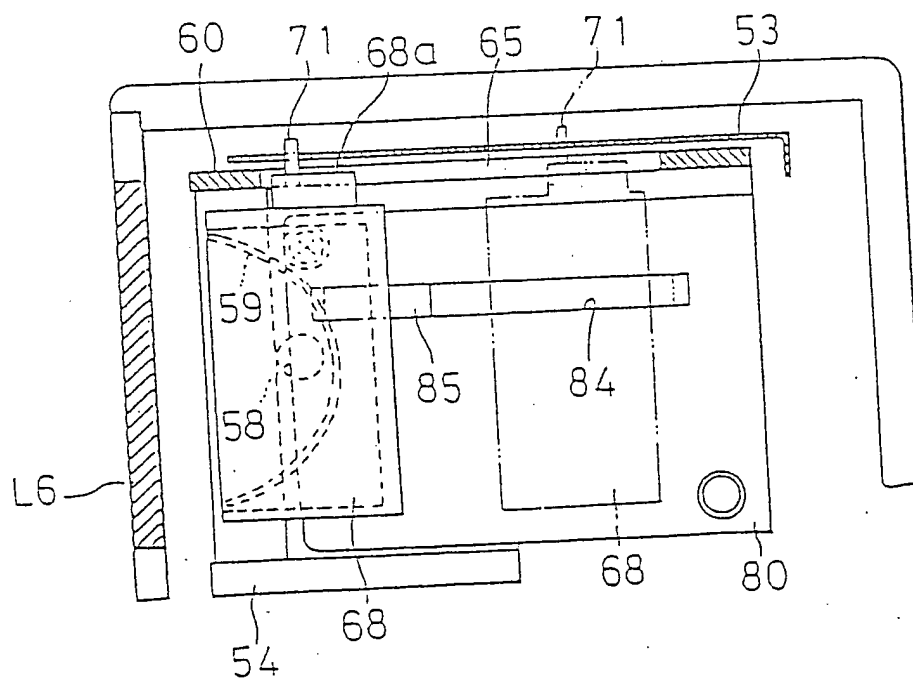


FIG. 28

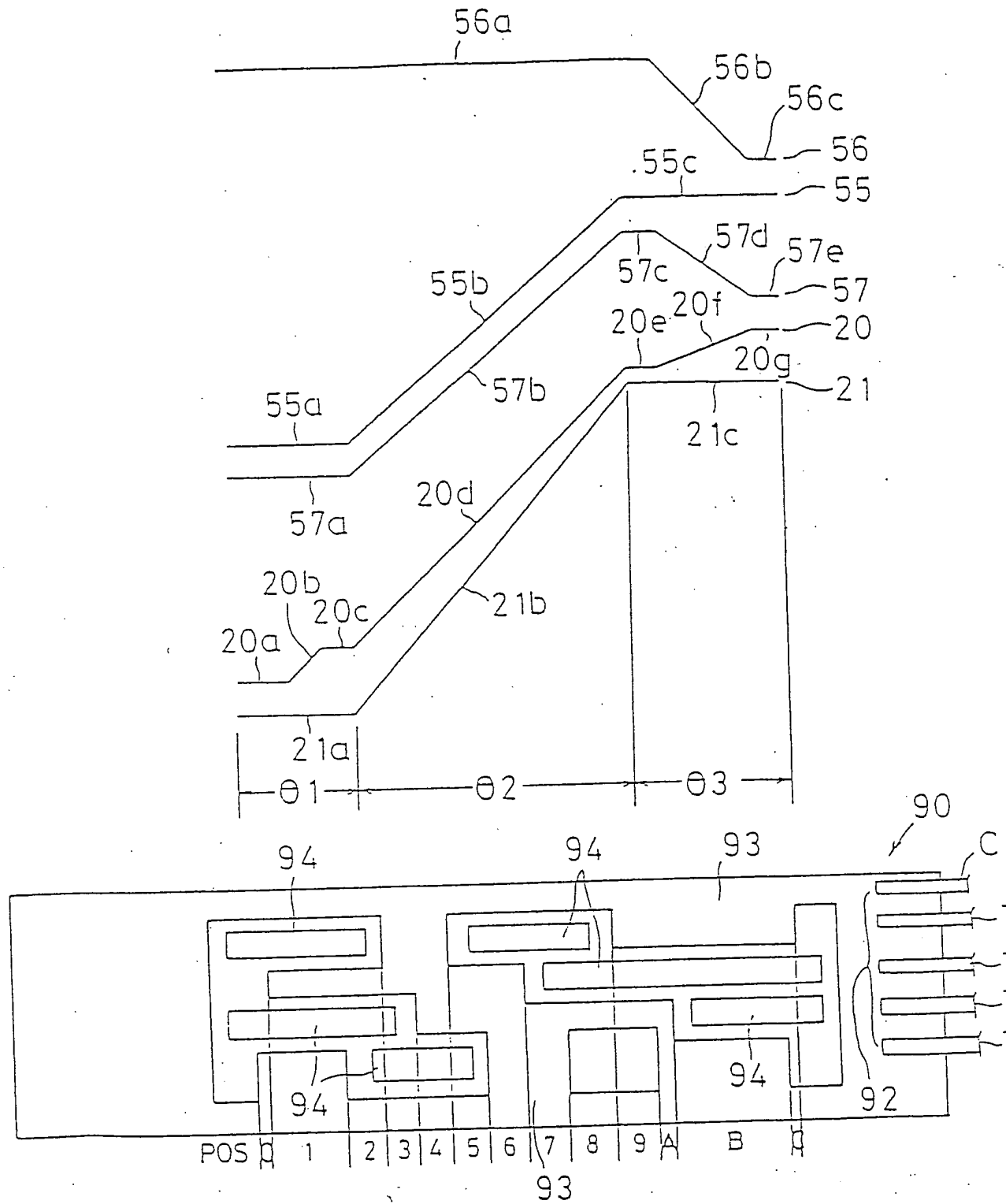


FIG. 29

- i — Cam ring position
- ii — Normal mode changeover
- iii — Mode changeover switch at ZOOM position during zooming motor rotation in forward direction
- iiii — Mode changeover switch at ZOOM position during zooming motor rotation in reverse direction

ZP	3	2	1	0	POS	i	ii	iii	iiii
1	1	1	0		0	LOCK			
1	0	1	0		1				
1	0	1	1		2	f0			
1	0	0	1		3	f1			
0	0	0	1		4	f2			
0	0	1	1		5	f3			
0	0	1	0		6	f4			
0	1	1	0		7	f5		Stop on spot	
0	1	1	1		8	f6			
0	1	0	1		9	f7			
0	1	0	0		A	f7'			
1	1	0	0		B				
1	1	0	1		C	MACRO			

- — Start position
- — Stop position

FIG. 30

▽△—Zoom lens position when mode changeover switch is set at ZOOM position while zooming motor is rotating

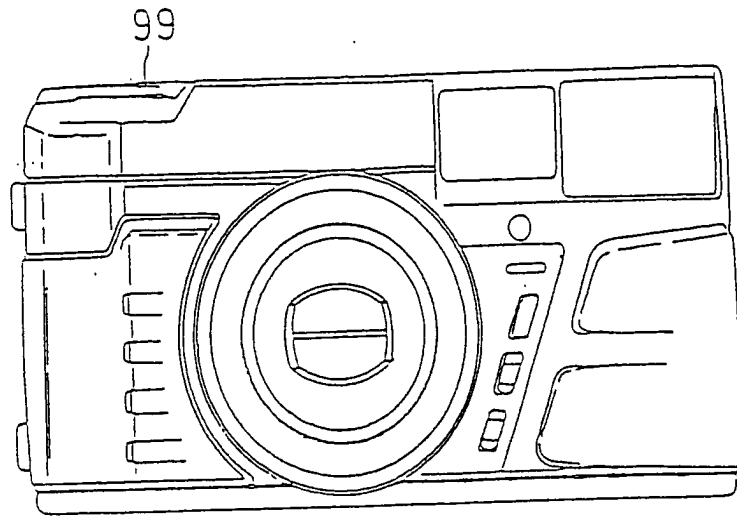


FIG. 31

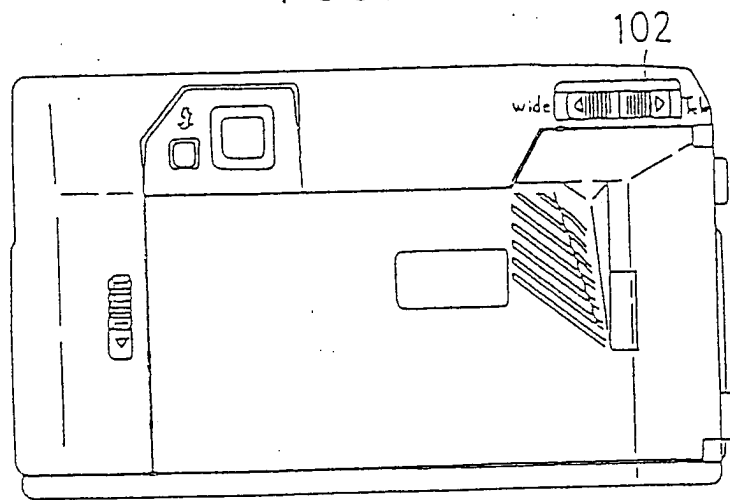


FIG. 32

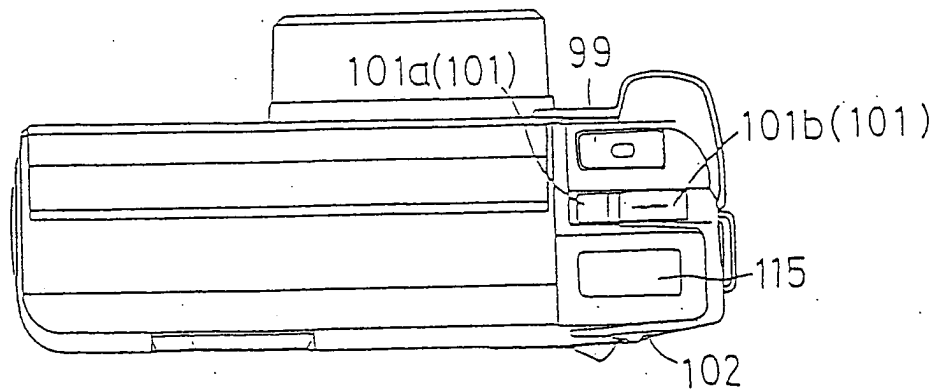


FIG. 33

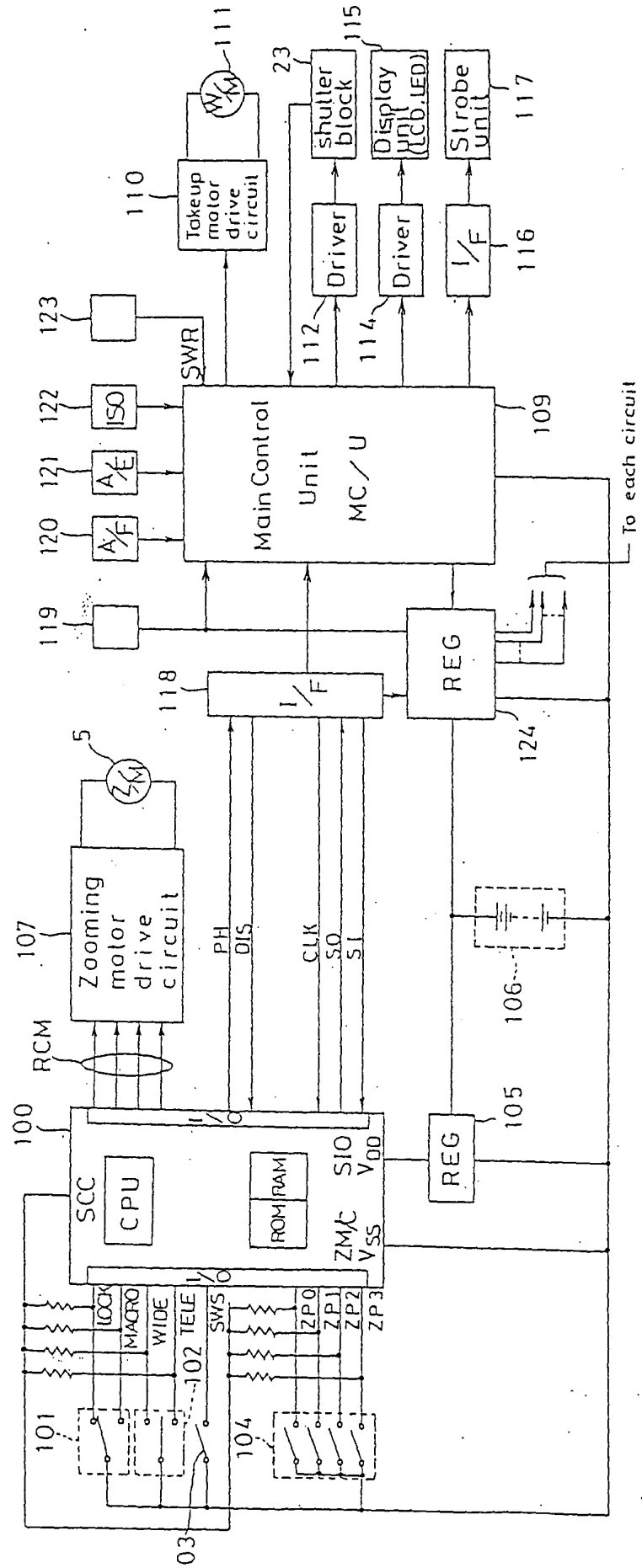


Fig.36

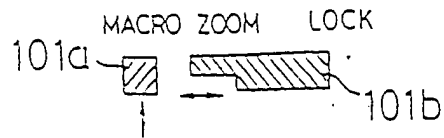


FIG. 34

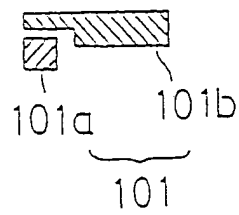


FIG. 35



FIG. 42

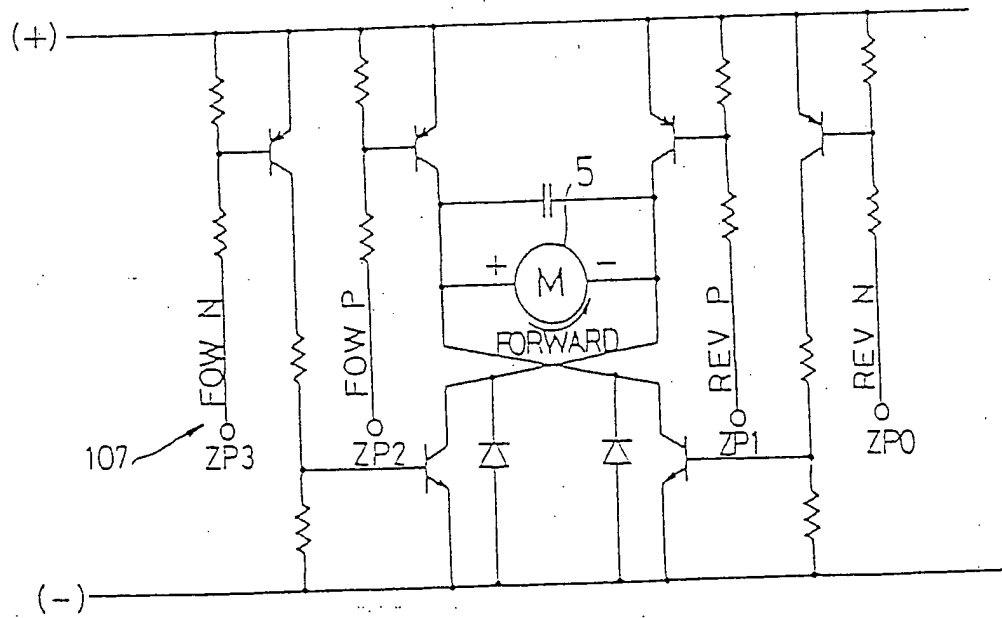


FIG. 37

FIG. 38(A)
FIG. 38(B)

FIG. 38

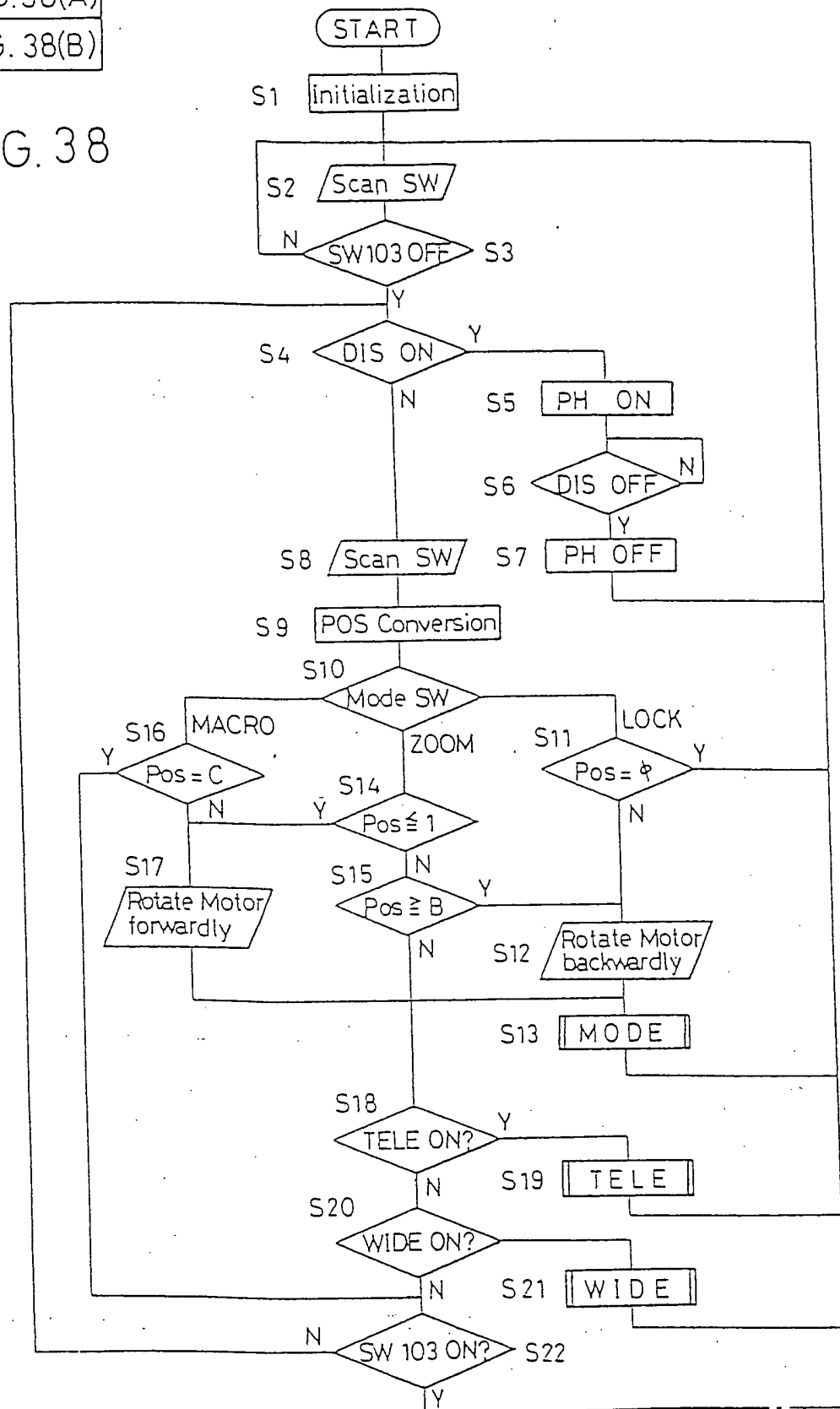


FIG. 38(A)

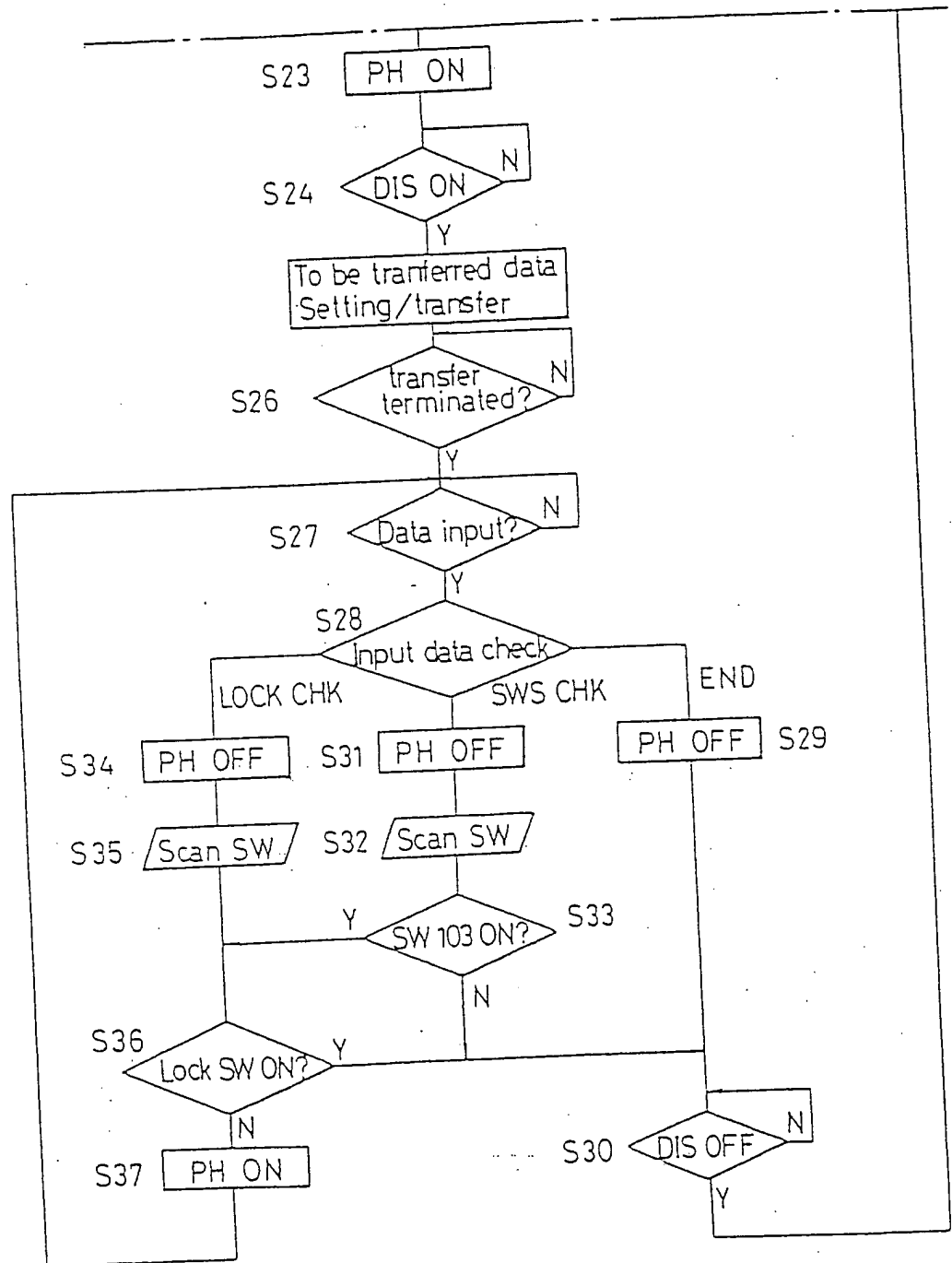


FIG 38 (B)

Fig. 39(a)
 Fig. 39(b)
 Fig. 39(c)

Fig. 39

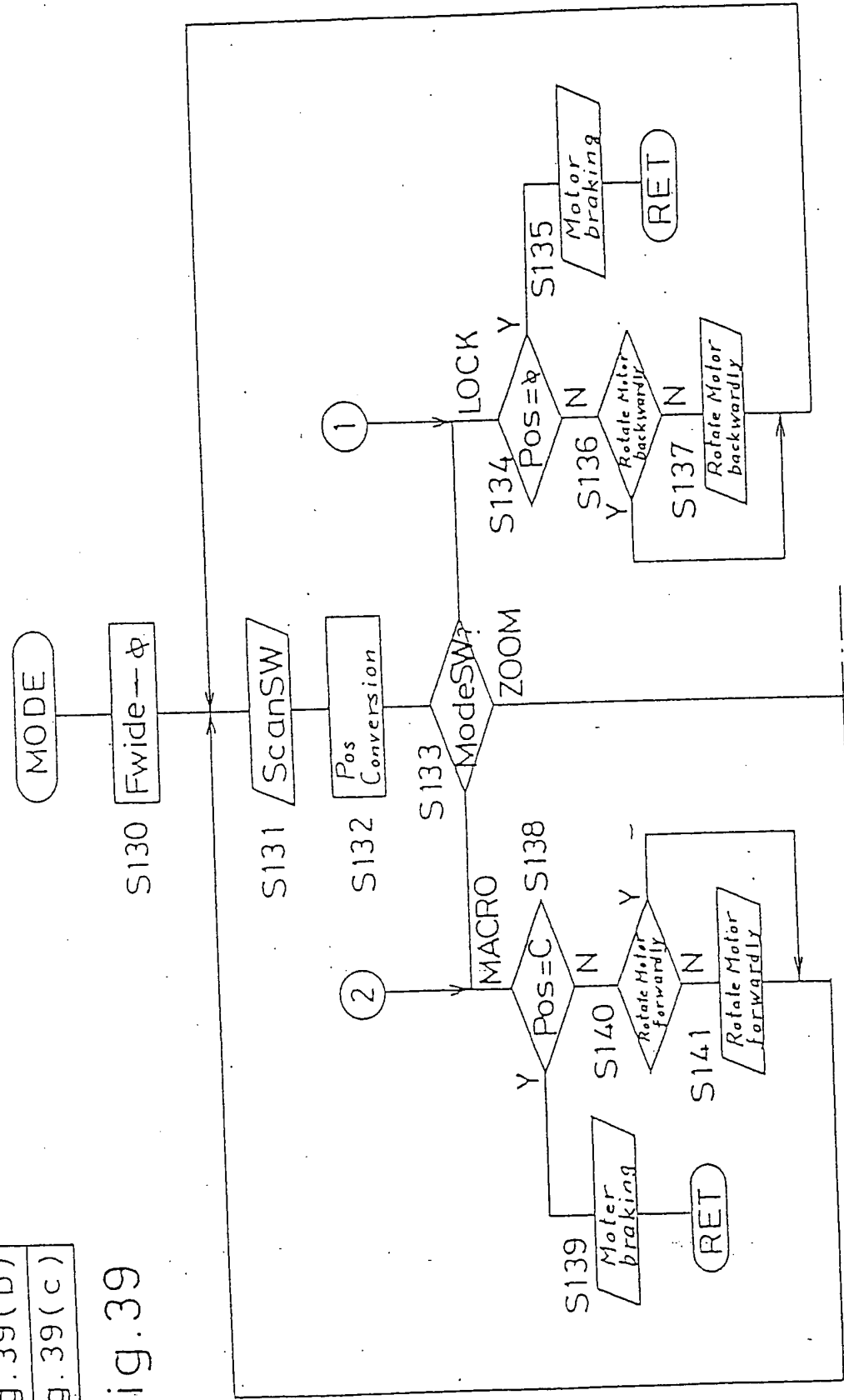


Fig. 39(a)

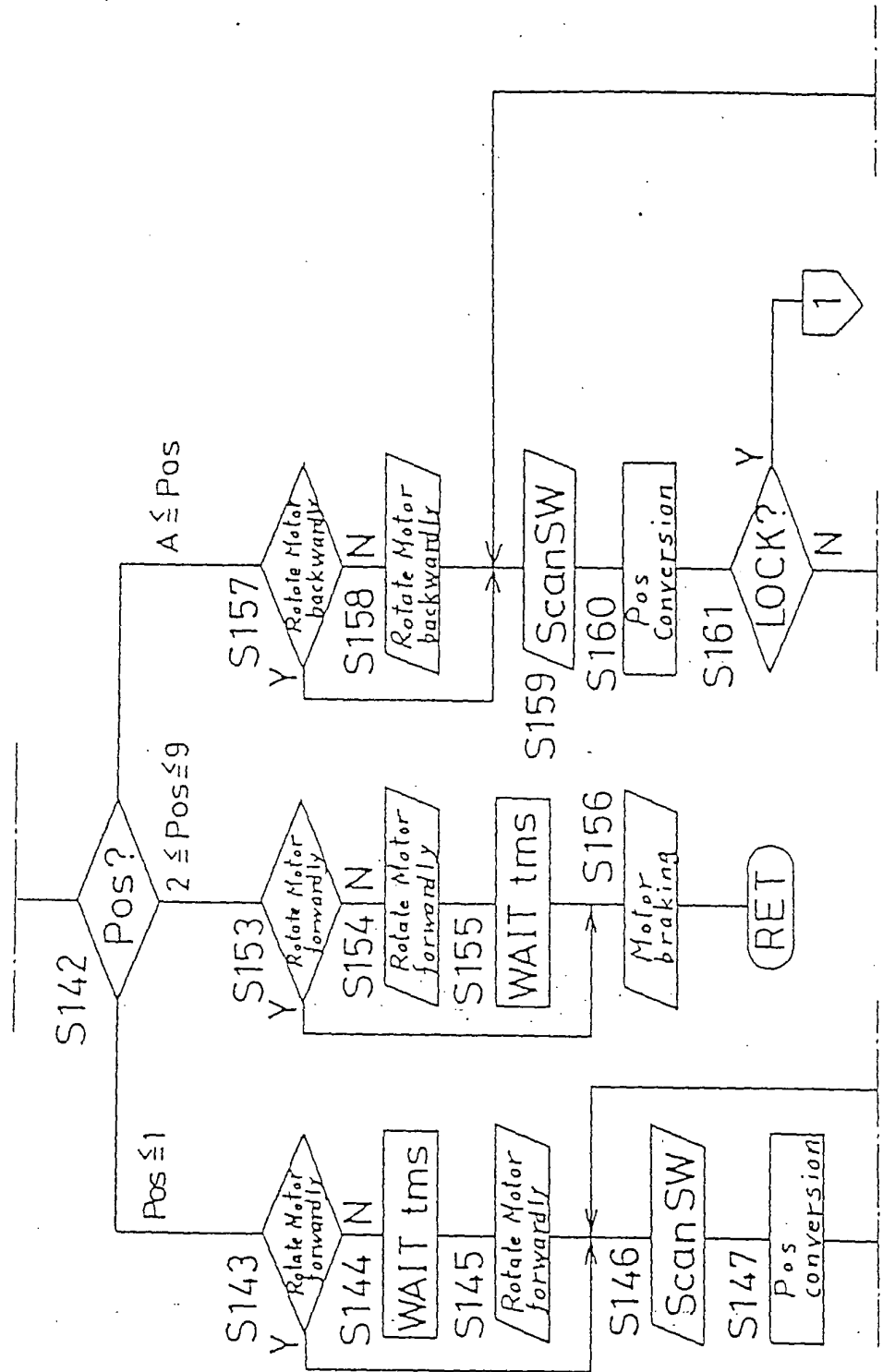


Fig. 39(b)

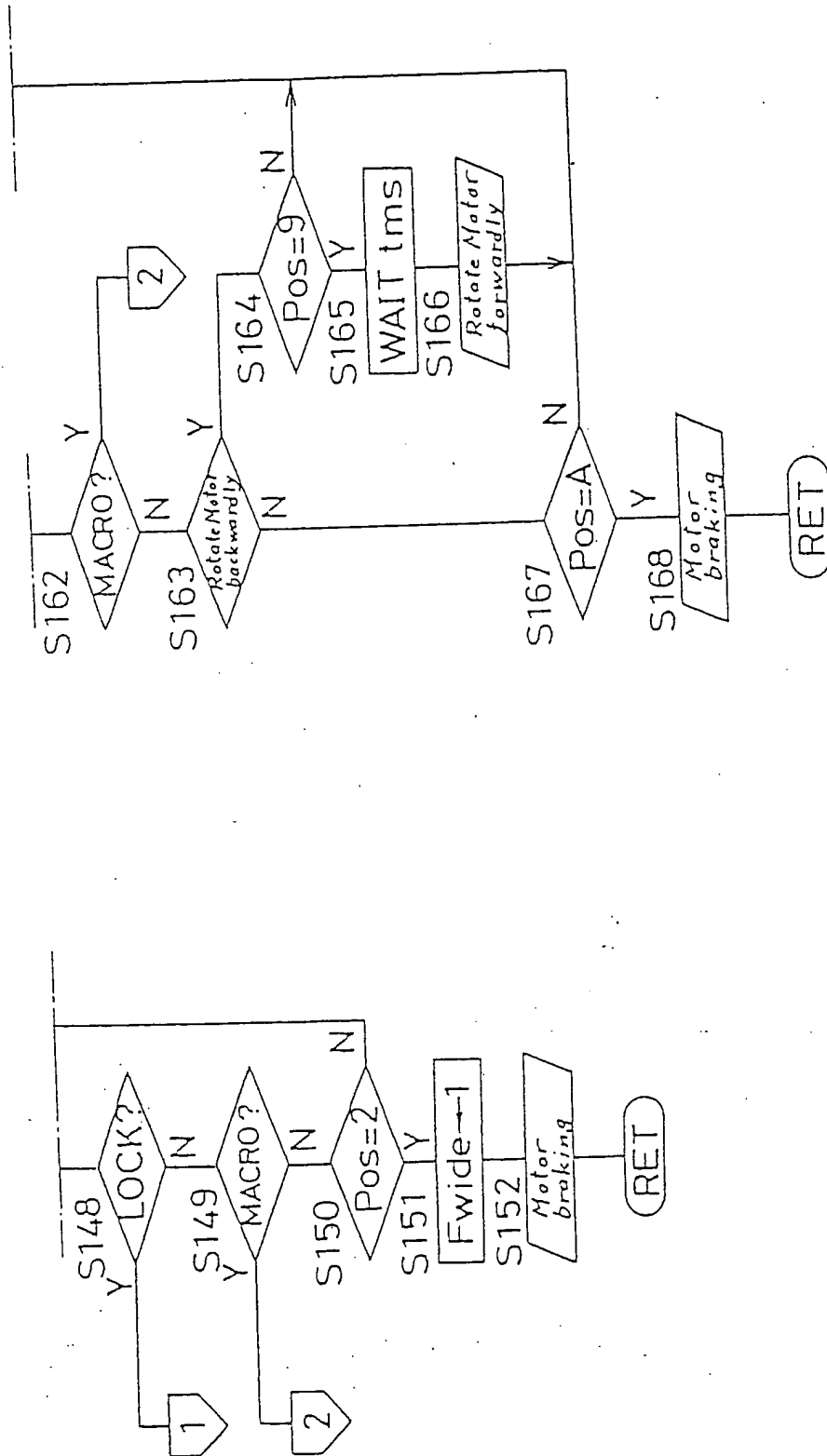


Fig. 39(c)

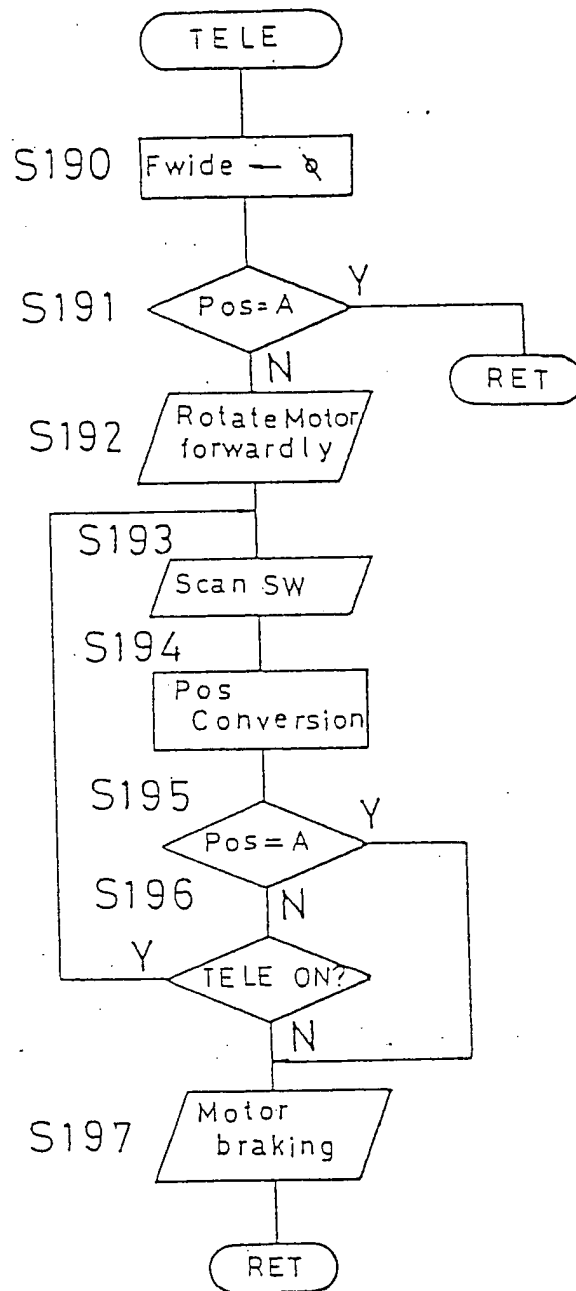


FIG. 40

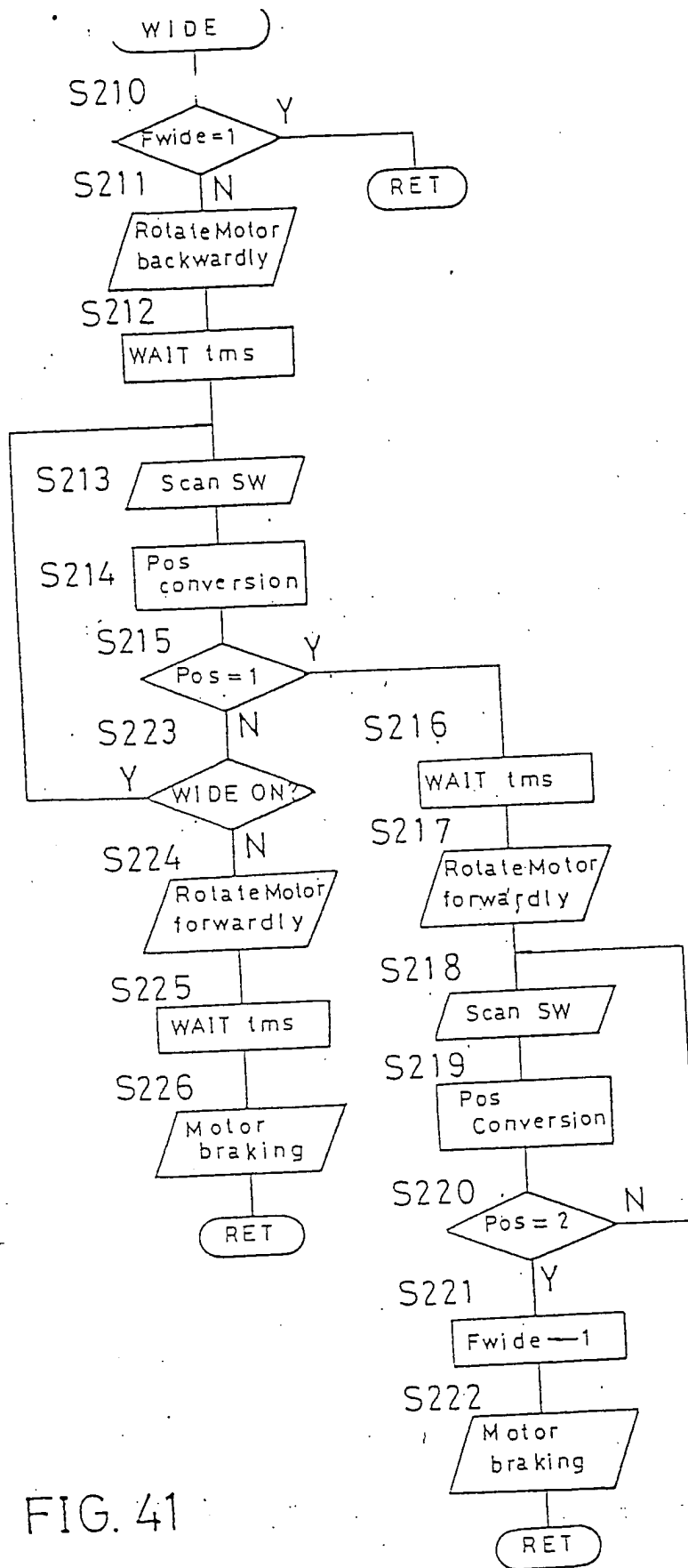


FIG. 41

- i — Cam ring position
- ii — Normal mode changeover
- iii — Mode changeover switch at ZOOM position during zooming motor rotation in forward direction
- iiii — Mode changeover switch at ZOOM position during zooming motor rotation in reverse direction
- iiiii — Zooming operation

ZP 3 2 1 0	POS	i	ii	iii	iiii	iiiii
1 1 1 0	0	LOCK				
1 0 1 0	1					
1 0 1 1	2	f0				
1 0 0 1	3	f1				
0 0 0 1	4	f2				
0 0 1 1	5	f3				Telephoto operation
0 0 1 0	6	f4				
0 1 1 0	7	f5				
0 1 1 1	8	f6				Wide angle operation
0 1 0 1	9	f7				
0 1 0 0	A	f7'				
1 1 0 0	B					
1 1 0 1	C	MACRO				

□ — Start position

○ — Stop position

▽ △ — Zoom lens position when mode changeover switch is set at ZOOM position while zooming motor is rotating

FIG. 43

※ — Stop position is always a change point of zoom code

Fig.44(a)
Fig.44(b)
Fig.44(c)

Fig.44

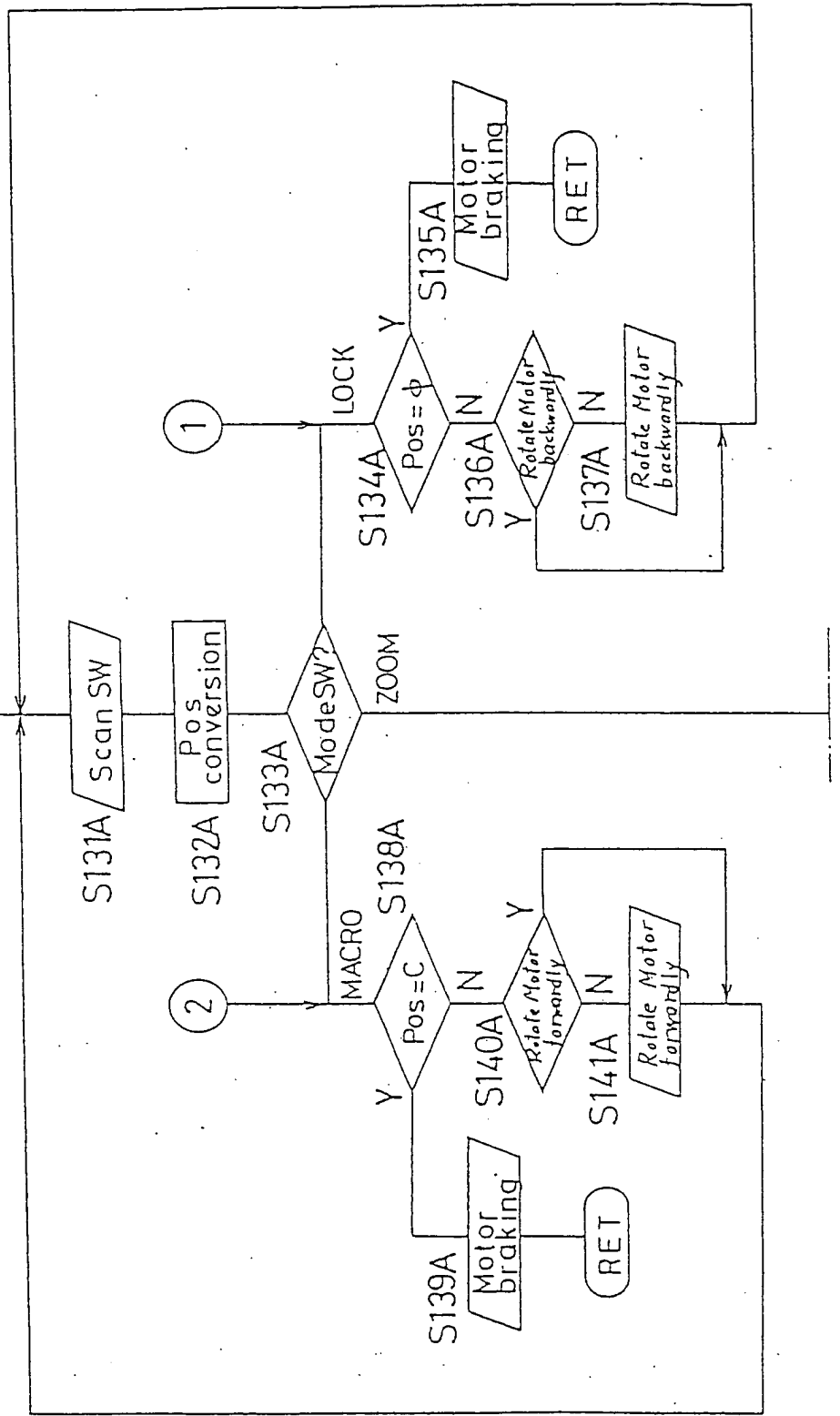


Fig.44(a)

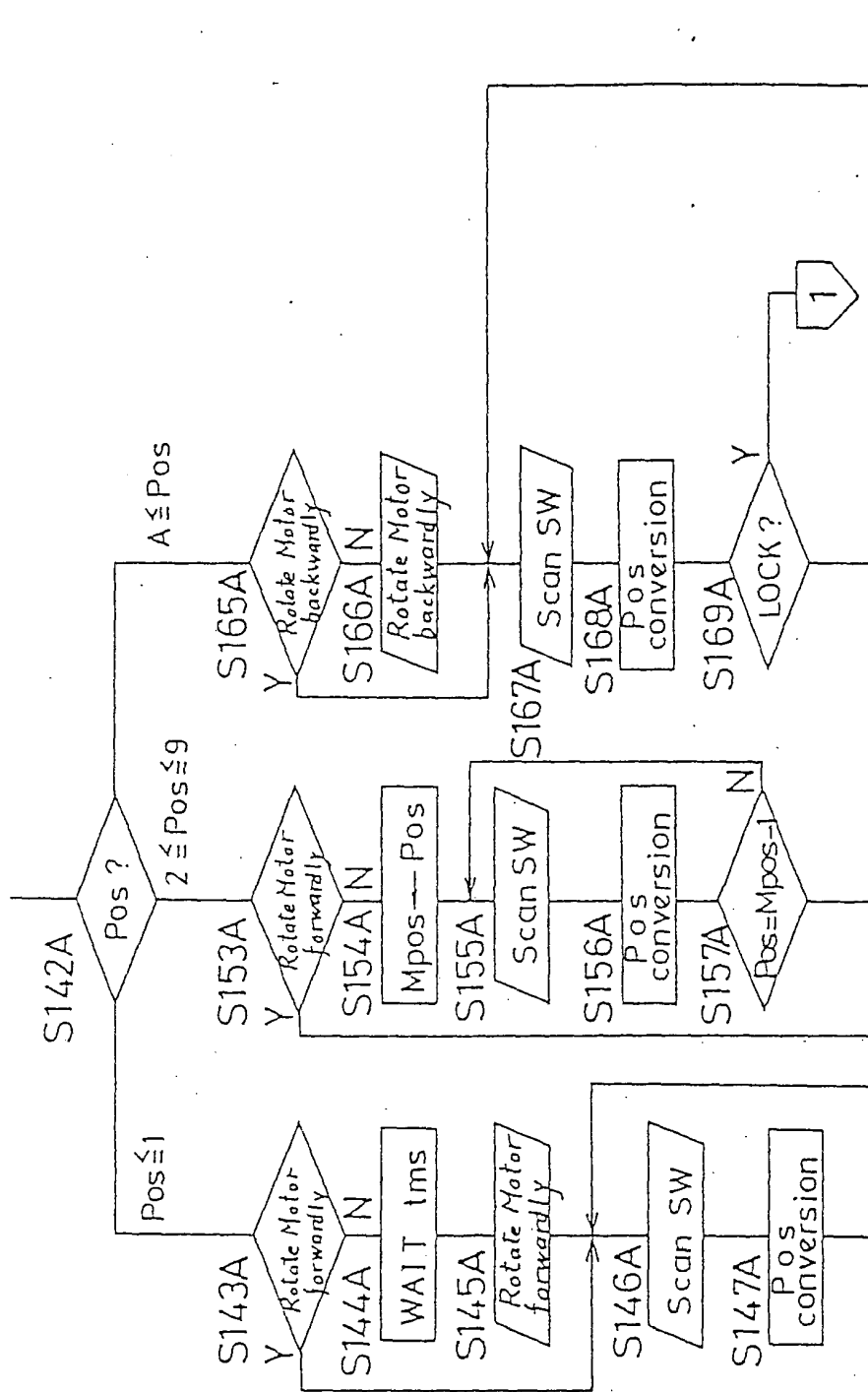


Fig.44(b)

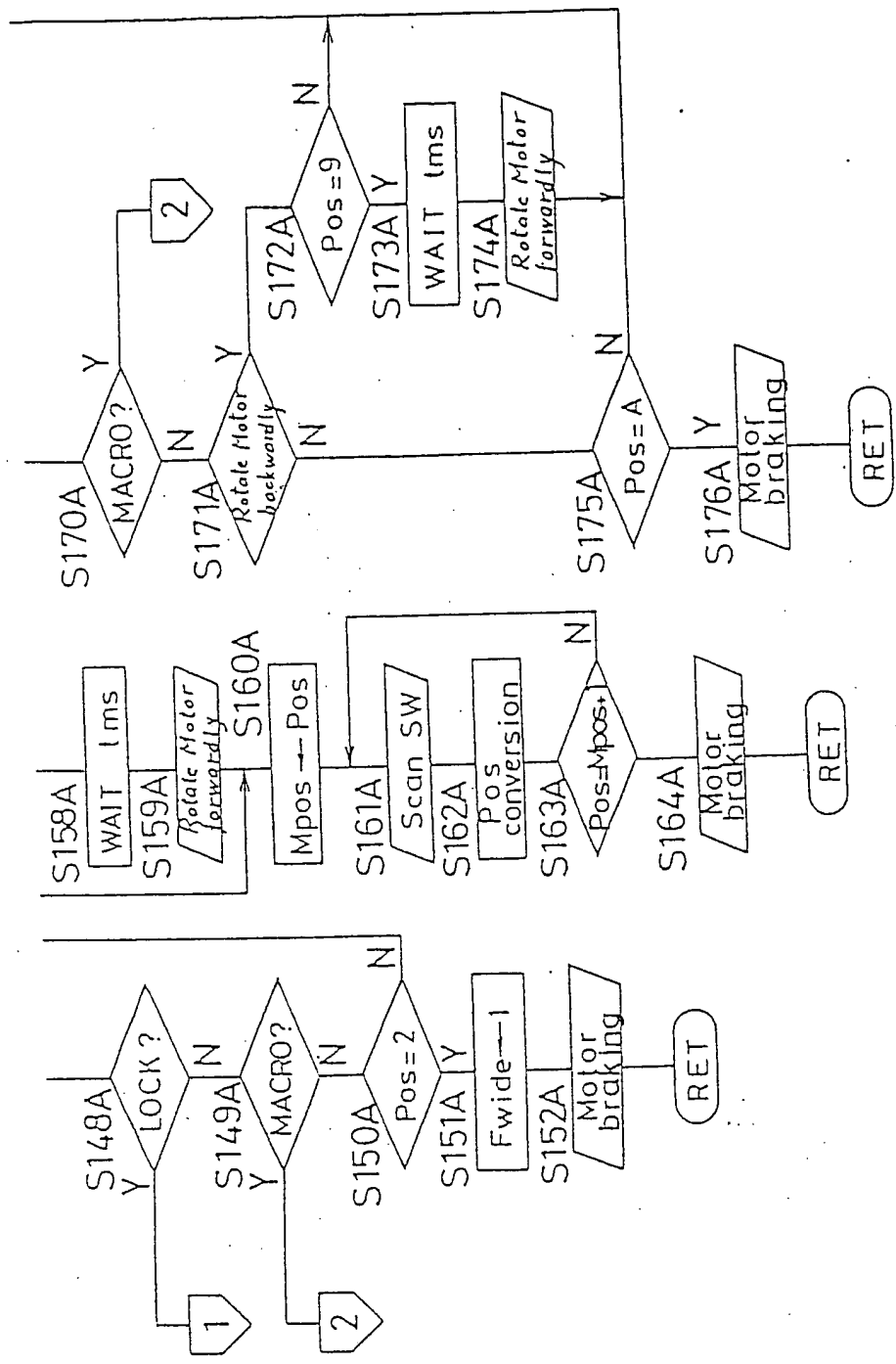


Fig. 44(c)

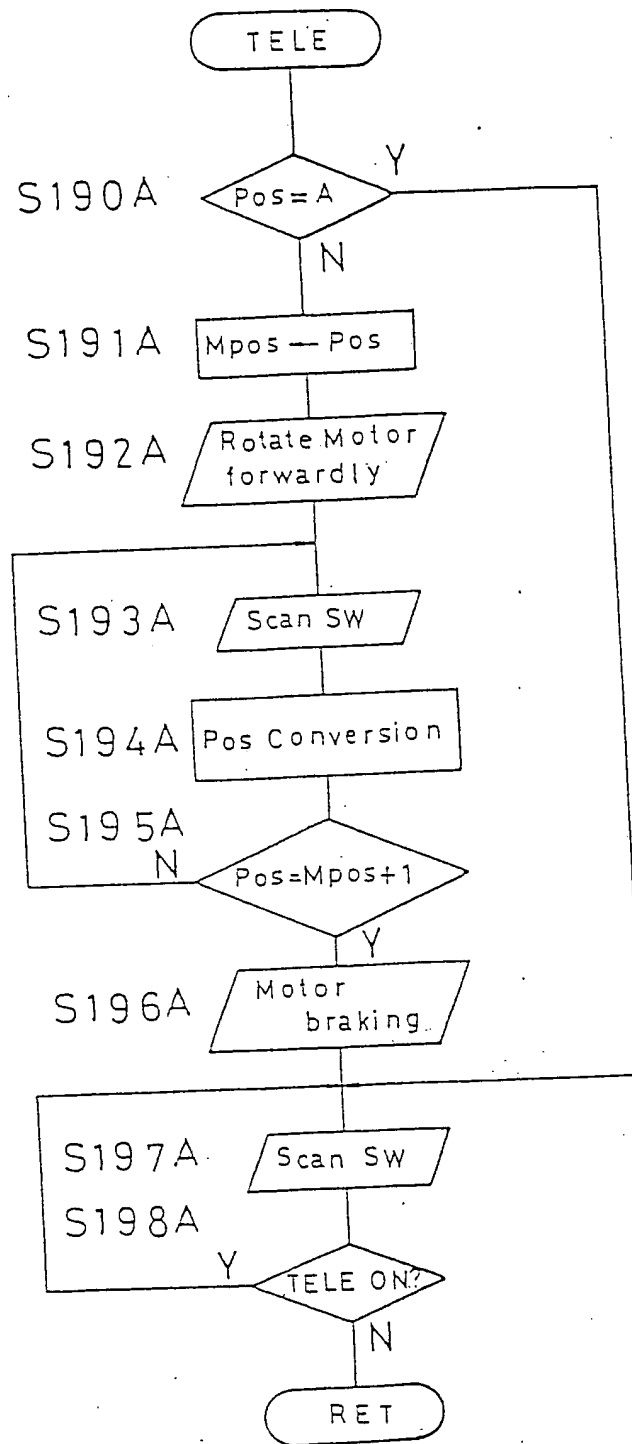


FIG. 45

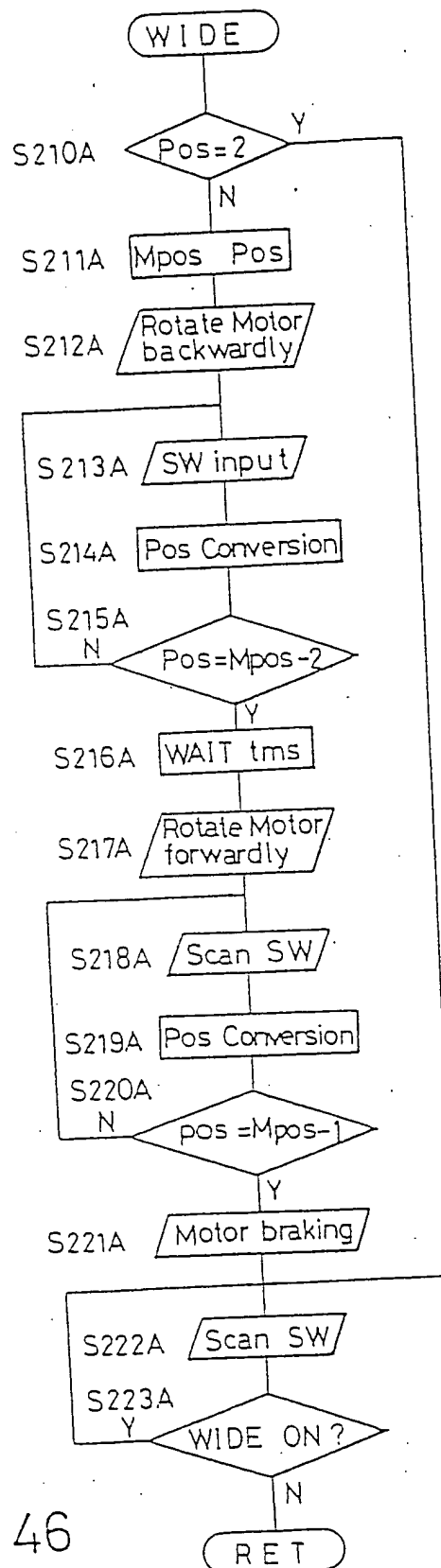


FIG. 46

- i — Cam ring position
- ii — Normal mode changeover
- iii — Mode changeover switch at ZOOM position during zooming motor rotation in forward direction
- iiii — Mode changeover switch at ZOOM position during zooming motor rotation in reverse direction
- iiiii — Zooming operation

ZP 3 2 1 0	POS	i	ii	iii	iiii	iiiii
1 1 1 0	0	LOCK				
1 0 1 0	1					
1 0 1 1	2	f0				
1 0 0 1	3	f1				
0 0 0 1	4	f2				Telephoto operation
0 0 1 1	5	f3				
0 0 1 0	6	f4				
0 1 1 0	7	f5				
0 1 1 1	8	f6				Wide angle operation
0 1 0 1	9	f7				
0 1 0 0	A	f7'				
1 1 0 0	B					
1 1 0 1	C	MACRO				

— Start position
 — Stop position

— Zoom lens position when mode changeover switch is set at ZOOM position while zooming motor is rotating

FIG. 47

— Stop position is always a change point of zoom code

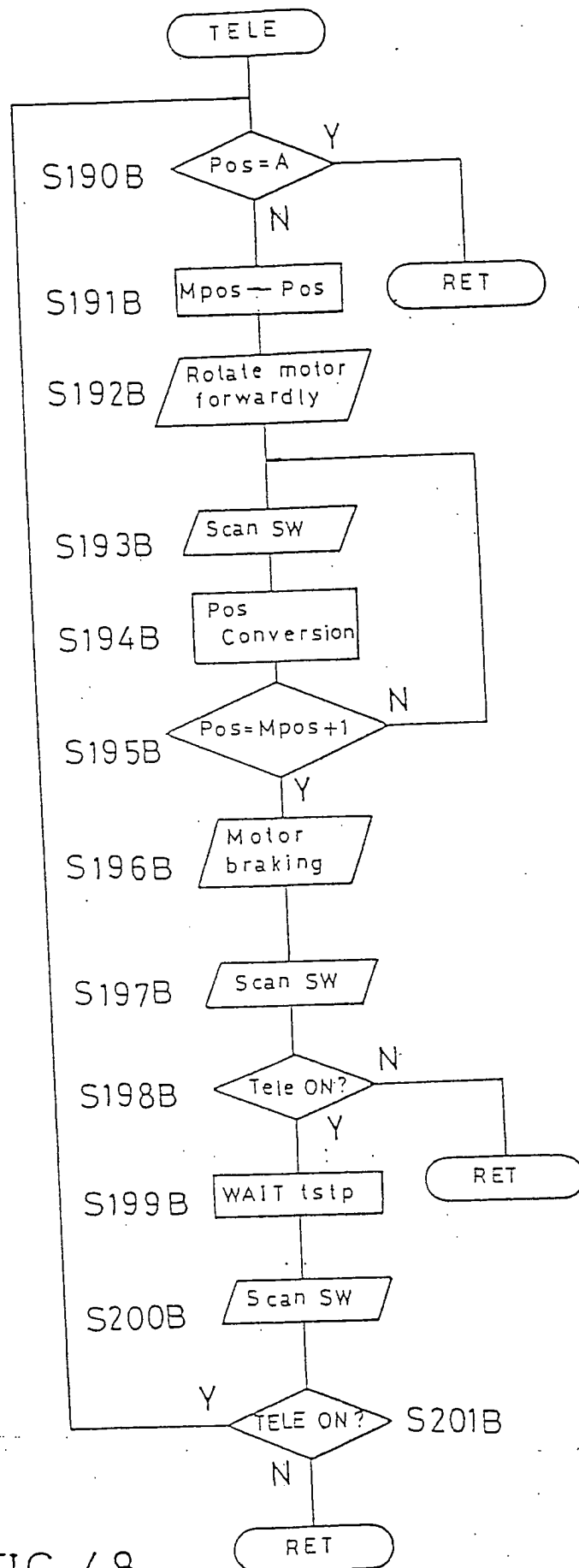


FIG. 48

FIG. 49(A)

FIG. 49(B)

FIG. 49

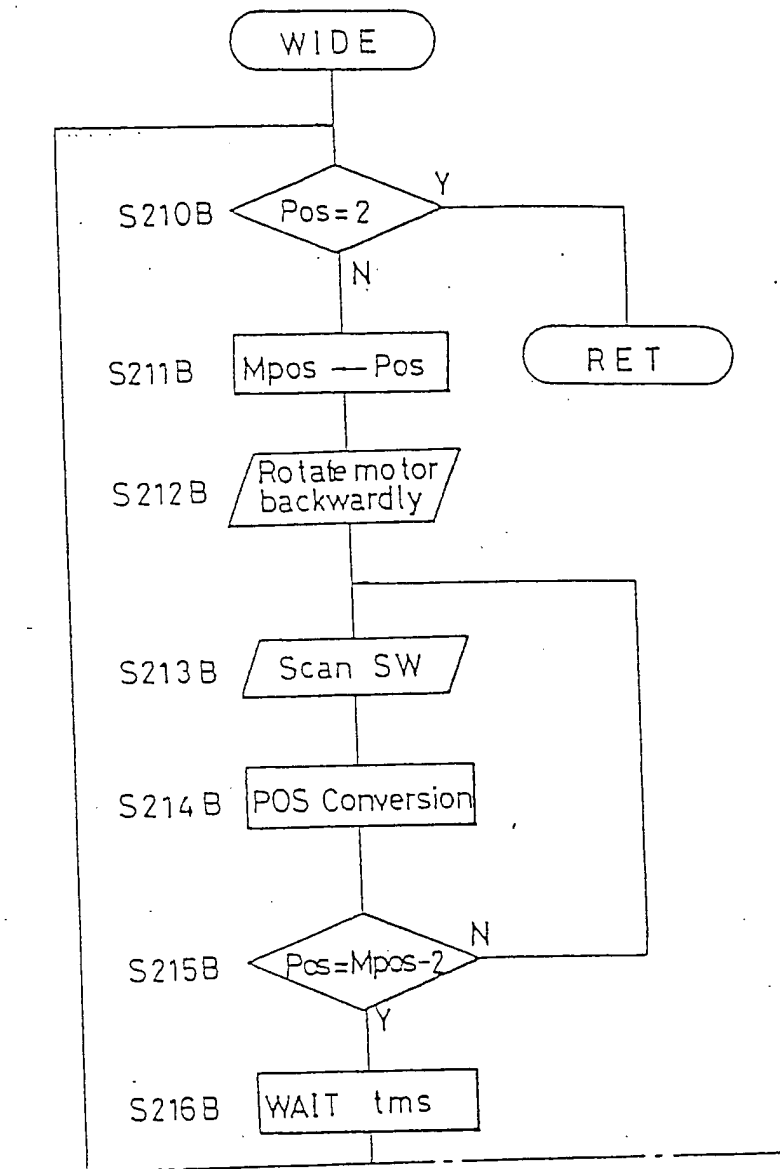
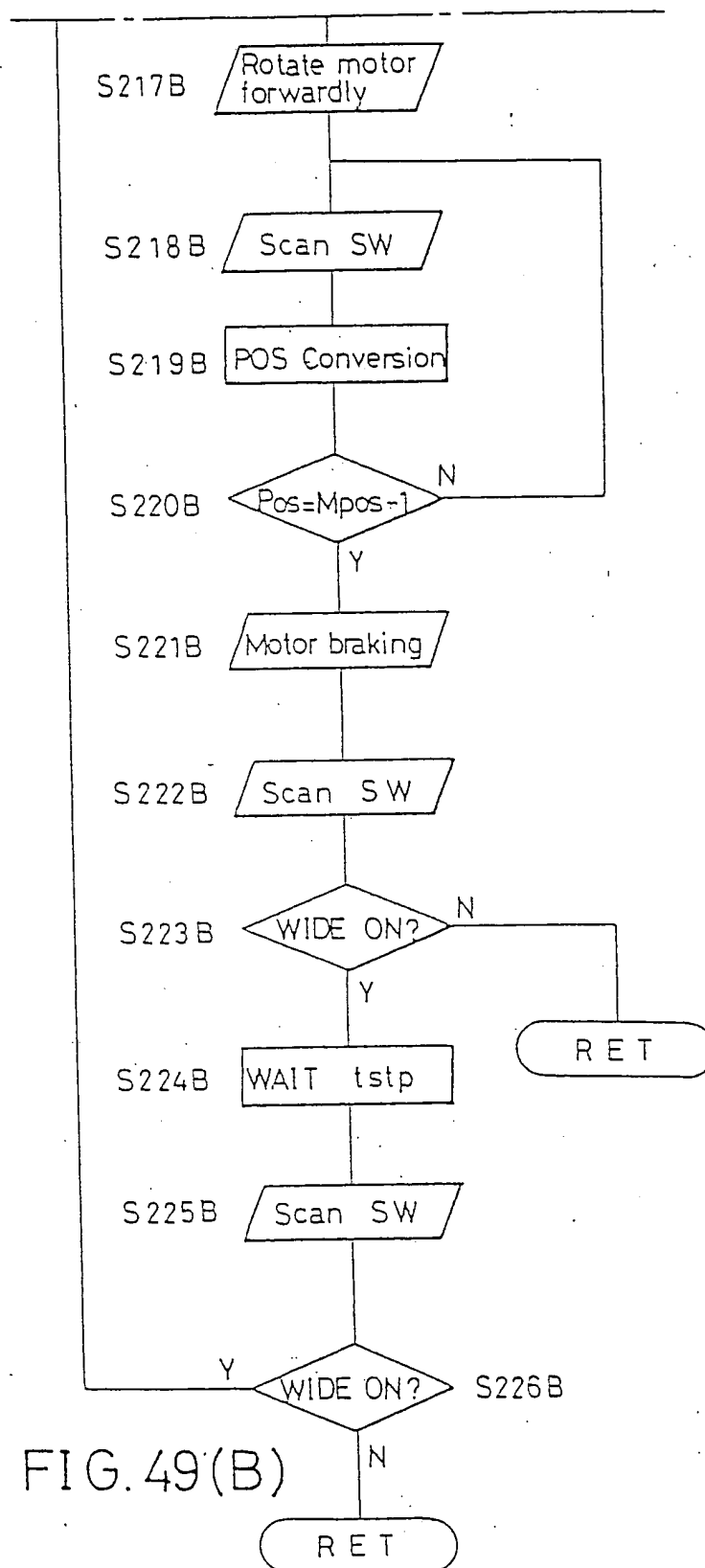


FIG. 49(A)



i — Cam ring position

Mode changeover during rotation of zooming motor

ZP 3 2 1 0	POS	i	ZOOM-LOCK-ZOOM	ZOOM-MACRO-ZOOM	ZOOM-LOCK-ZOOM	ZOOM-MACRO-ZOOM
1 1 1 0	0	LOCK				
1 0 1 0	1					
1 0 1 1	2	f0				
1 0 0 1	3	f1				
0 0 0 1	4	f2				
0 0 1 1	5	f3				
0 0 1 0	6	f4				
0 1 1 0	7	f5				
0 1 1 1	8	f6				
0 1 0 1	9	f7				
0 1 0 0	A	f7'				
1 1 0 0	B					
1 1 0 1	C	MACRO				

□ — Start position

○ — Stop position

When mode changeover switch is placed at ZOOM position, zooming motor immediately rotates in reverse direction

※ — The stop position is always a change point of zoom code. The above chart is a one when Mpos = 5

⊙ — When mode changeover switch is placed at ZOOM position zooming switch immediately rotates in forward direction

FIG. 50

Fig. 51 (a)
Fig. 51 (b)
Fig. 51 (c)

Fig. 51

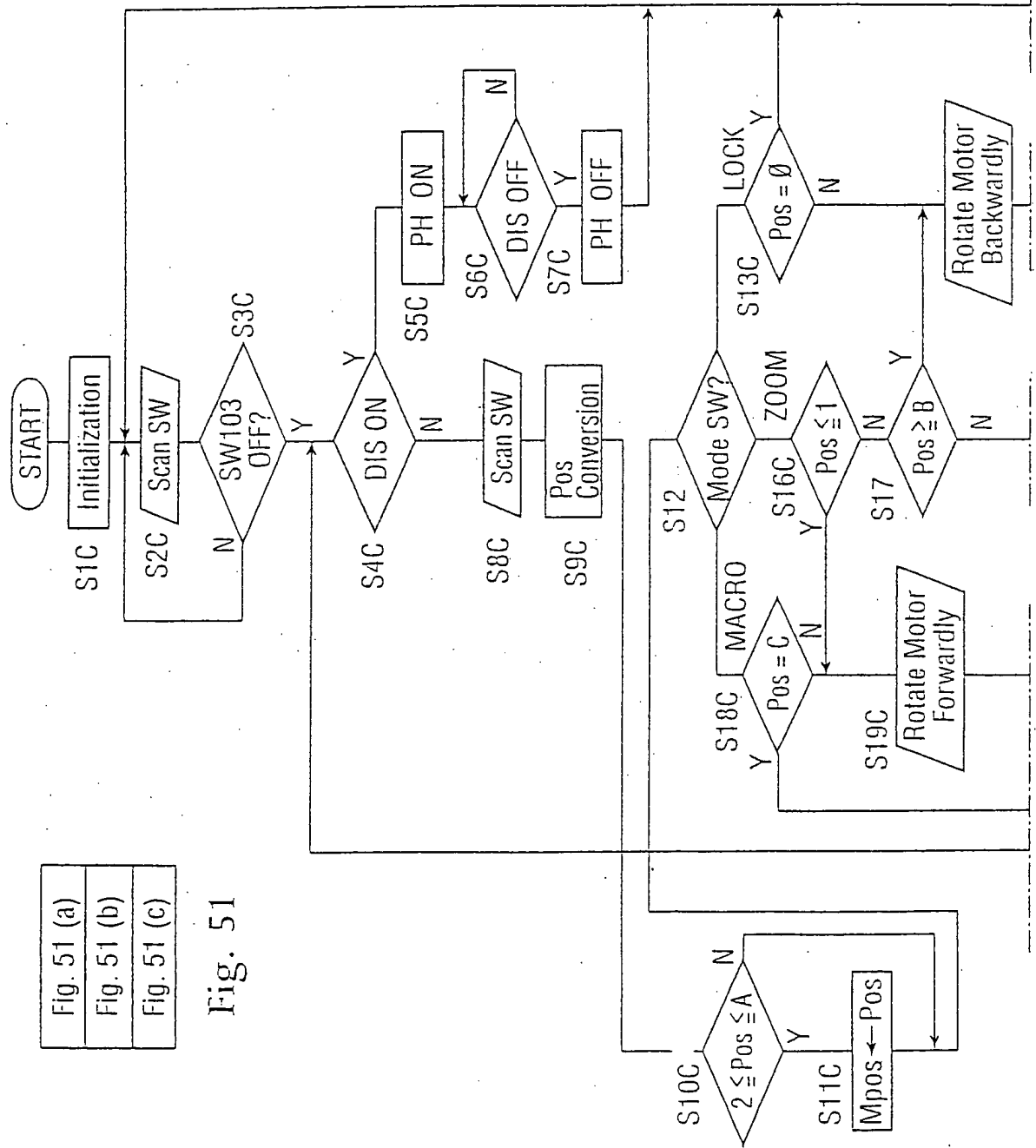


Fig. 51 (a)

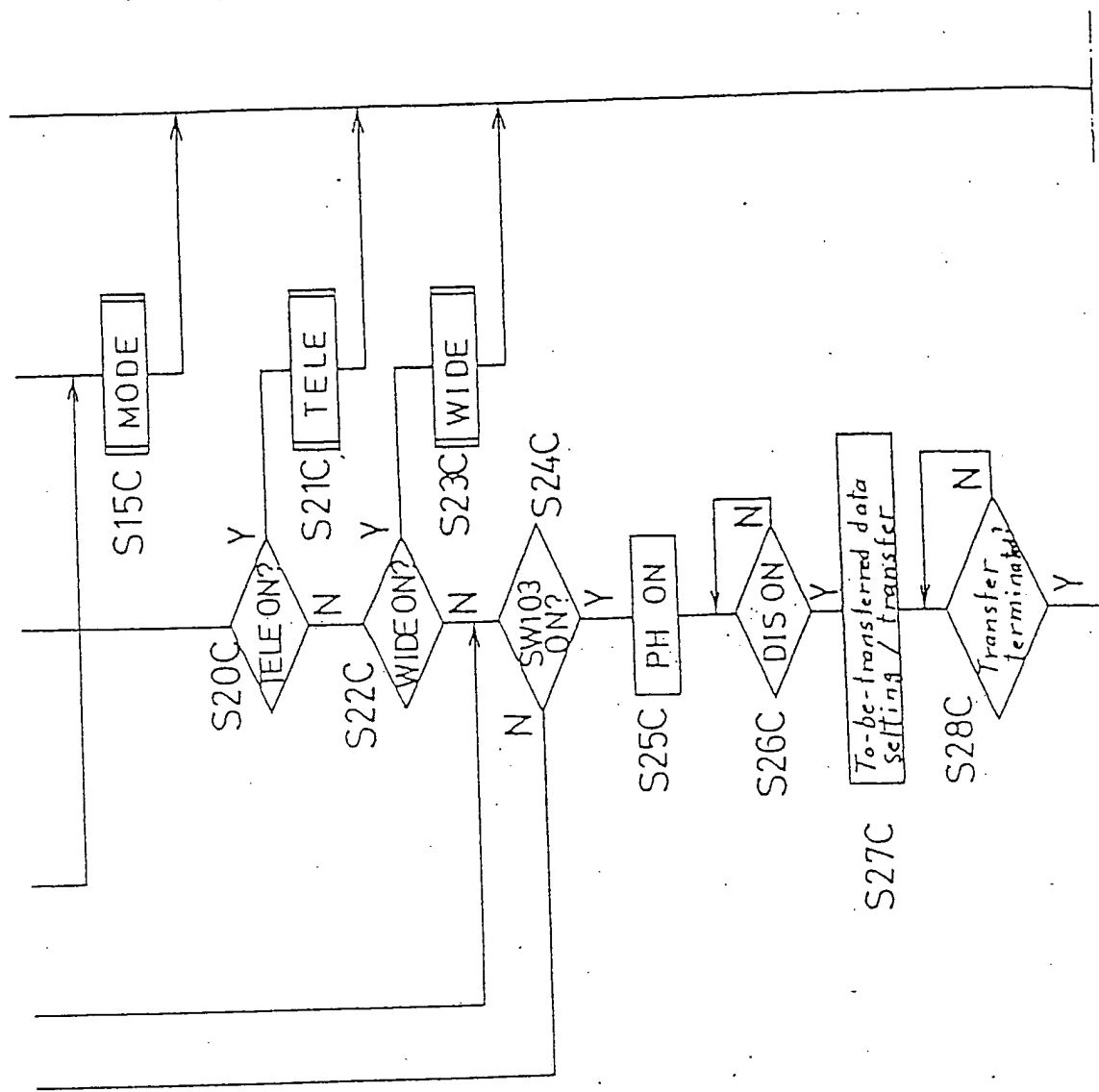


Fig. 51(b)

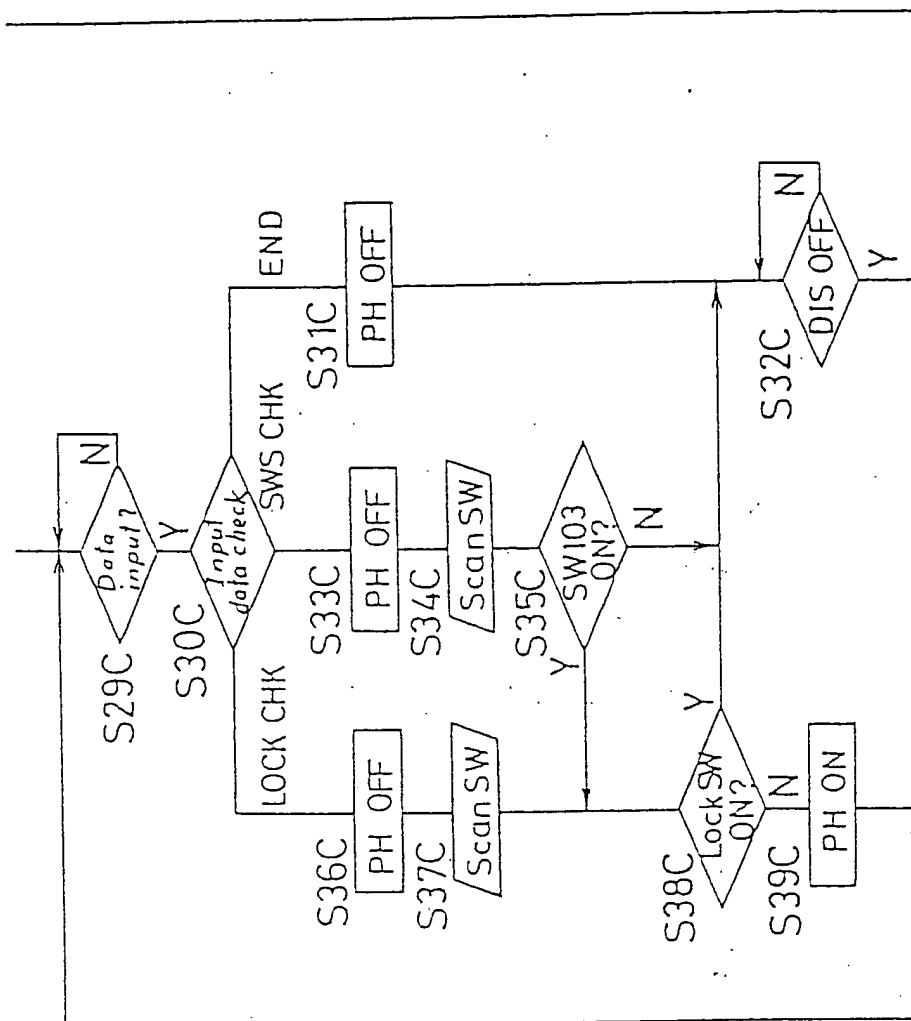


Fig. 51(c)

Fig. 52 (a)
Fig. 52 (b)
Fig. 52 (c)

Fig. 52

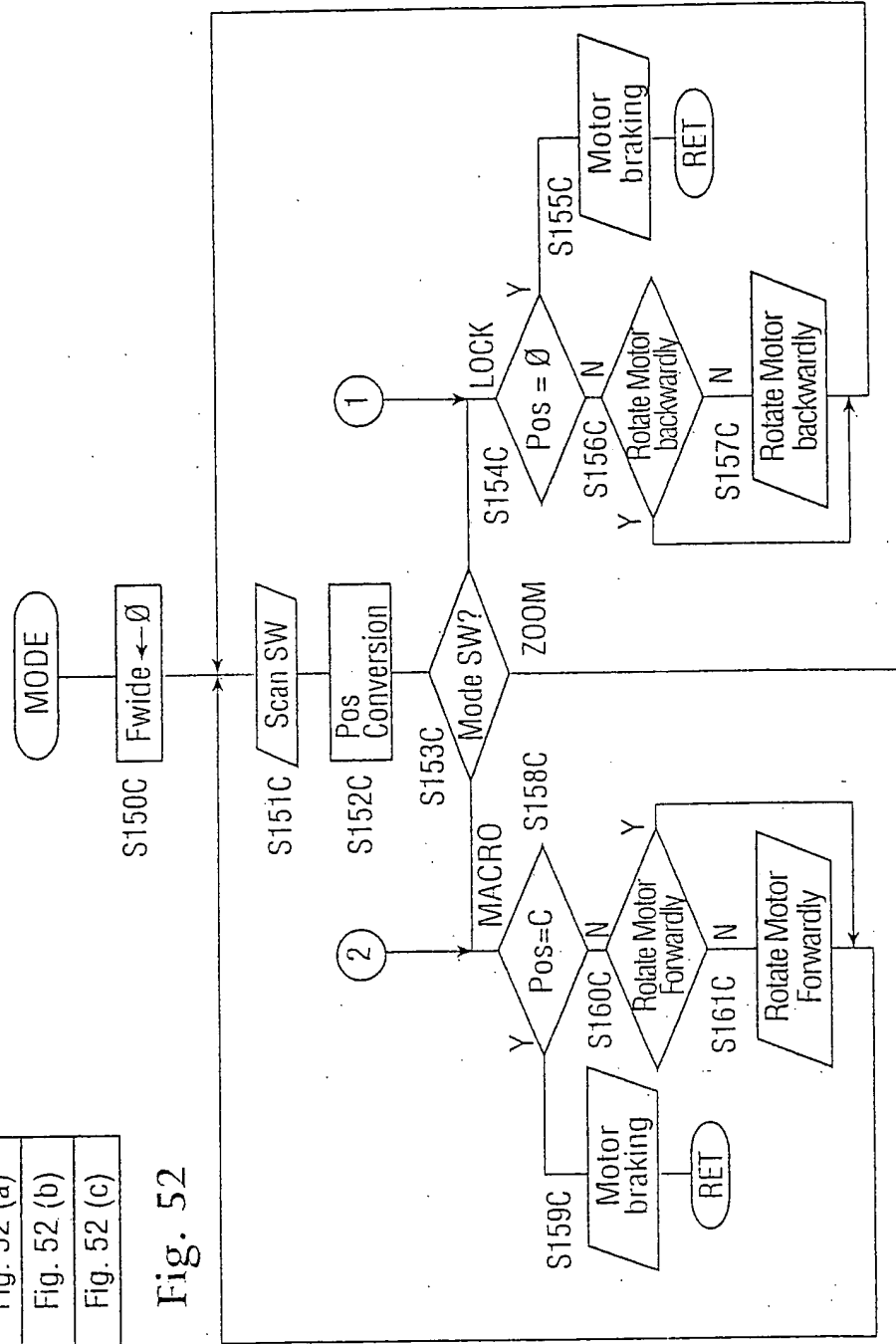


Fig. 52 (a)

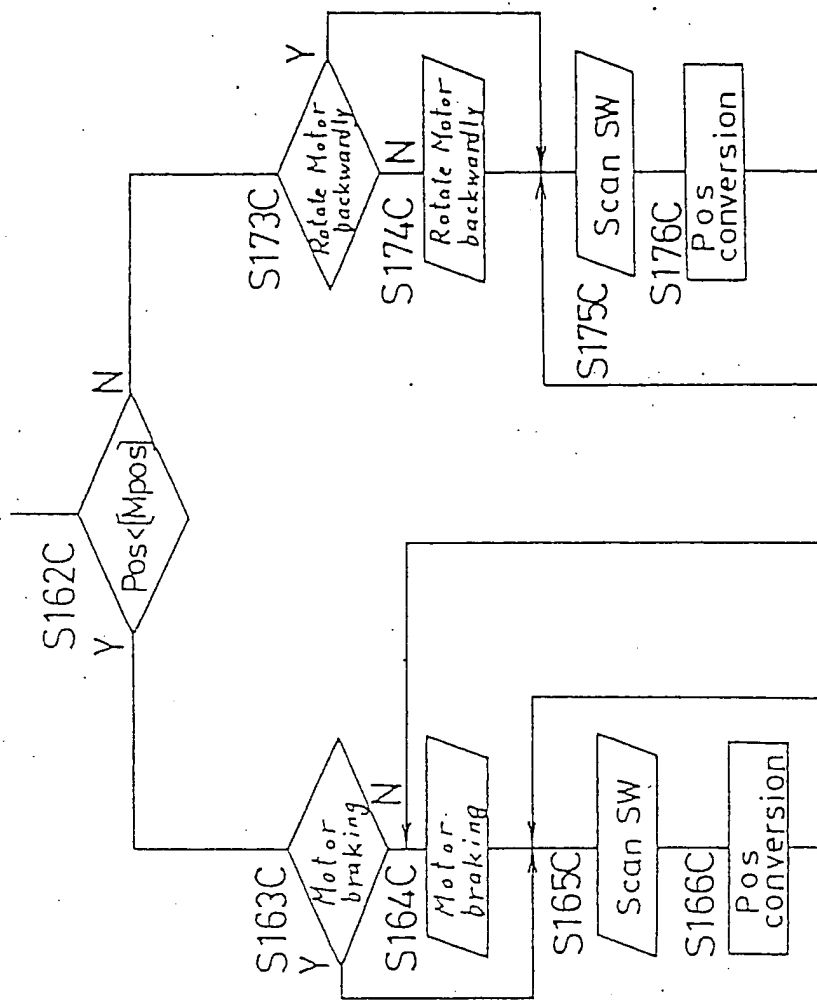


Fig. 52(b)

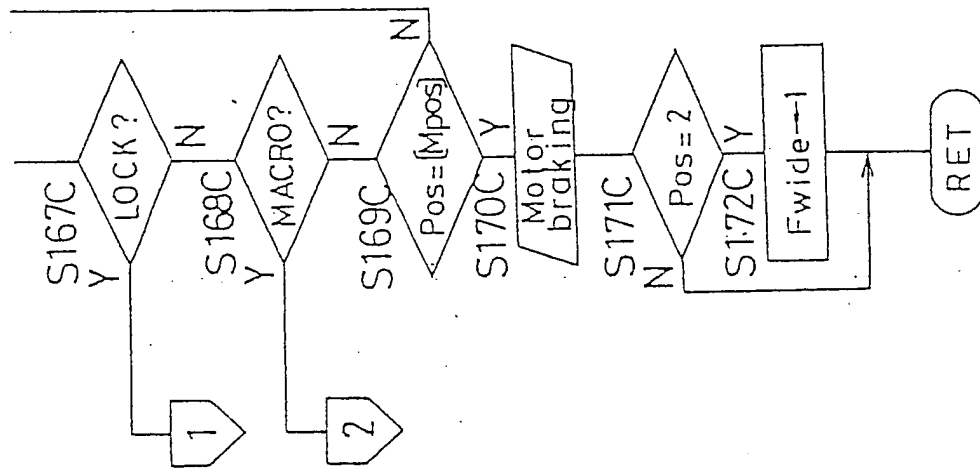
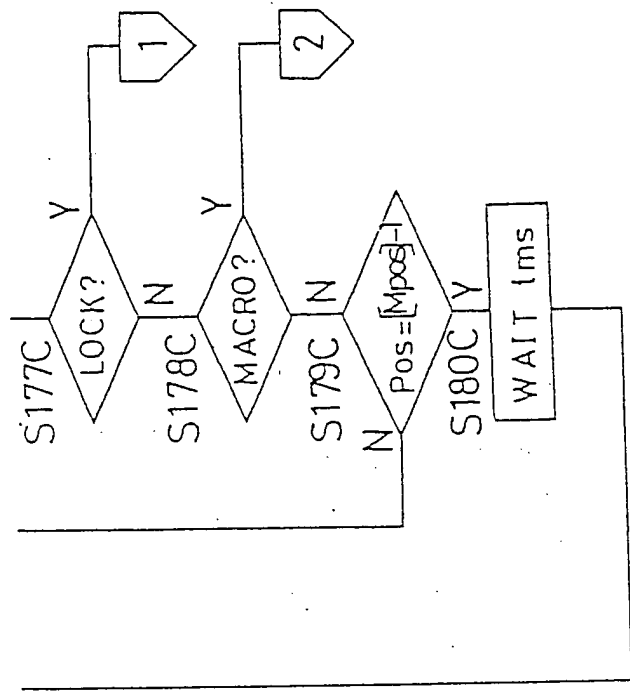


Fig. 52(c)